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ABSTRACT

This teaching guide, developed by the Los Angeles (California) Unified School District, supports the concept that the benefits of technology should be available to all Americans regardless of ethnic background or sex. The instructional activities described here are designed to reflect the positive changes and to increase student awareness of the problems of technological innovations in food science, medicine, labor and employment practices, health and medical services, and mass communications. Student worksheets and answer keys are included together with a format for developing additional lesson plans, a glossary, and bibliography. (JCD)

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OUR HUMAN TIES

IMPACT OF TECHNOLOGY IN SOCIETY

UD 022 100

OUR HUMAN TIES

IMPACT OF TECHNOLOGY IN SOCIETY

Monograph #7

May, 1977

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OUR HUMAN TIES, IMPACT OF TECHNOLOGY IN SOCIETY is the seventh monograph in a series of seven.

- Social Sciences Framework
- Building Self Concept
- Relationships With Others
- Interdependence and Social Interaction
- Cultural Similarities and Differences
- Political and Economic Relationships
- Impact of Technology in Society

FOREWORD

This is the final monograph in our current series of OUR HUMAN TIES. This service has greatly strained the human and financial resources of the area, and staff is to be commended highly for their services far above the call of duty. Yet, we recognize that this series only creates a framework on which to build in the future, and we have invited everyone to participate in this ongoing task.

We recognize that many desirable objectives have either not been mentioned or have been incompletely treated. Most obvious of these are the tasks of dealing with stereotypes, the semantics of the English language, and the recognition and defusing of prejudice.

We must face the fact that the social majority debases the minority and then places the primary blame for such dehumanization on those who have been debased and demands of them that they shoulder the burden of human costs in their own "rehabilitation." The educational process must create an awareness and acceptance of the fact that the total society must be rehabilitated and humanized and the responsibilities and human sacrifices must be equally shared.

Every student and every district employee must develop a sense of personal responsibility to put an end to man's inhumanity to man.

Frederick J. Dumas
Area J Superintendent

ACKNOWLEDGEMENTS

This monograph has been compiled through the efforts of the Area I Instructional Staff under the leadership of Dr. Maxine R. Mitchell. Appreciation is expressed to all who have contributed ideas, ..., and effort

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TABLE OF CONTENTS

	Page
Foreword	v
Acknowledgements	vi
Philosophy	1
Statement of Goals	2
Some Major Concepts Concerning the Impact of Technology in Society	3
Instructional Objectives	4, 10, 12, 19, 39, 55, 66, 90, 104
Activities	
# 1 Becoming Informed	5
2 Mass Communication	7
3 Believe It or Not	11
4 Why Mention It?	13
5 A Television Survey	17
6 Keeping It Cool	20
7 Increasing the Life Span	22
8 Live Longer	32
9 Medical Services	40
10 Health Facilities	43
11 The World of Work	56
12 The Career Opportunity Game	67
13 Education Long Ago	91
14 Why Education	96
15 Technology and Education	105
16 The Job I Want	108
Activity Record	114
Add-a-Lesson	115
Impact of Technology in Society Activity	116
Glossary	117
Bibliography	118

PHILOSOPHY

The well being of society is dependent upon the recognition of the interdependence of people. In the words of Wilson Riles, "Our success or failure in solving social problems will ultimately determine our survival as a human race."

It is important that all educators working with students recognize the importance to society and the impact on society of the self concepts held by individuals. It is equally critical that educators become fully cognizant of the facets and effects of the relationships, interdependence, and social interactions of people, of the political and economic relationships of groups, and of the impact of technology on our modern world.

OUR HUMAN TIES, THE IMPACT OF TECHNOLOGY IN SOCIETY supports the concept that the benefits of technological progress should be available to all people in America without regard to the ethnicity or sex of individuals. The impact of technology on mass communication, education, health, and employment has generated both an increase and a decrease in societal problems. Institutions of a society exist to serve that society; its people must see that the institutions utilize the best of technology to serve the people well.

STATEMENT OF GOALS

Goals for Teachers

- Teachers will be increasingly aware that each person is a unique human being and that although all humans are alike in many ways, no two groups of people nor individuals within a group will necessarily live in exactly the same way.
- Teachers will develop an ever growing appreciation of the complexity of humanity and of the interdependence of people.

Goals for Learners

- Each learner will develop an awareness of his/her background and of the diverse background of others.
- Each learner will develop an appreciation of the complexity of humanity and of the interdependence of people.

SOME MAJOR CONCEPTS CONCERNING

THE IMPACT OF TECHNOLOGY IN SOCIETY

- Rapid mass communication has been made possible by advancement in technology.
- Technological advancement has enabled scientists to develop ways of controlling or conquering many diseases thus increasing the average life span of individuals.
- Advancement in technology has resulted in an increased demand for workers with specialized skills.
- Educational opportunity must be available to all people so that each individual can prepare to live and work productively in a rapidly changing technological society.

Concept

Rapid mass communication has been made possible by advancement in technology.

Instructional Objective

The learner will identify forms of mass communication.

Activities 1 - 2

ACTIVITY #1

BECOMING INFORMED

Materials

- Chalkboard
- Chalk
- School bulletin, Newspaper, Magazine

Procedure

- Present and read a school bulletin from the principal.
- Have students discuss the importance of a school bulletin as a means of getting information to teacher, students, parents.
- Have students discuss other means of communication which would get information to students in a school, i.e., notes, loud speaker, bells, intercom.
- Ask which of these means of communication is the quickest and most modern.
- Introduce the term "mass communication." Define it as a means of disseminating information to large groups of people quickly.
- Introduce other forms of mass communication by asking the following questions and guiding students to give examples.
    - How does your father or mother get information about the world? (Newspaper, radio, magazine, television.)
    - Is it important for everyone to get the same information? Why?
    - Is it important for people to get true information? Why?
- Elicit, discuss, show examples, and list on the chalkboard some of the important methods of mass communication used daily by people, i.e., newspaper, radio, television, magazine.
- Take a mass communication popularity poll to determine which form of communication the students prefer. Ask them why they chose as they did.

- Determine from students what they think the mothers' first choice would be. Why?

- Determine from students what they think the fathers' first choice would be. Why?

- Have each student illustrate a form of mass communication utilized within his/her home. Have the illustration show the family members who use that form of communication.

ACTIVITY #2

MASS COMMUNICATION

Materials

- Chalkboard
- Chalk
- Mass Communication Word Search Puzzle

Procedure

- Have student discuss the means by which all students and teachers at school could be rapidly informed of vital emergency information, i.e., by notes, bells, intercom, loudspeaker.
- Have students discuss the form of communication that would give the quickest and most accurate information.
- Elicit from students the meaning of the term, "mass communication."
- Elicit from students and list on the board some popular forms of mass communication, i.e., radio, television, newspaper, and magazines.
- Have students discuss the importance of getting information to everyone rapidly and accurately.
- Have students discuss the possible effects of a lack of factual information or receipt of slanted information on students, adults, heads of businesses.
- Ask students to list on the board all other forms of mass communication which:
    - Have popular appeal
    - Reach many people
    - Could inform or affect the way people act or feel. (Movies, music, lectures, etc.)
- Introduce the Word Search Puzzle
- Allow time for each student to complete the Word Search Puzzle.

- Check the completion of the puzzle by allowing students to respond to the following questions:
    - How is this a form of mass communication?
    - How has technology increased the importance of this communication form?
    - What are the positive effects of this form of communication?
    - What, if any, are the negative effects of this form of communication?

Extended Activity

- Rank the forms of mass communication according to importance, popularity, and reliability. Graph the results.
- Make a timeline showing technological advances for each of the major forms of mass communication from their early beginnings to the present time.

COMMUNICATION WORD SEARCH PUZZLE

This is a communication word search puzzle. Each means of communication is listed below the puzzle. Locate and circle each of the popular means of communication that you find listed in the puzzle. Words in the puzzle may be found in a horizontal, vertical or diagonal position. For each word you locate in the puzzle think to yourself:

- How is this a form of mass communication?
- How has technology increased the importance of this form of communication?
- What are the positive effects of this form of communication?
- What, if any, are the negative effects of this form of communication?

N	A	X	L	O	C	B	D	Z	U	M	N	O
E	L	C	O	M	M	E	R	C	I	A	L	A
W	C	D	F	E	X	M	O	P	L	P	M	Q
S	Z	P	O	F	D	N	M	U	T	A	S	A
P	A	M	P	H	L	E	T	F	R	G	I	J
A	K	D	E	L	O	Q	U	D	V	B	W	C
P	W	B	V	C	D	L	E	C	T	U	R	E
E	D	T	E	L	E	V	I	S	I	O	N	I
R	A	E	B	C	H	G	A	B	K	F	W	H
A	D	V	E	R	T	I	S	E	M	E	N	T
B	G	F	I	I	L	J	P	E	K	I	A	R
I	O	B	M	T	S	R	N	O	T	W	B	A
L	N	O	A	C	W	I	C	E	M	D	E	D
L	A	O	P	S	Z	Q	L	A	U	F	G	I
B	R	K	T	A	V	L	J	B	S	L	I	O
O	L	S	G	I	U	P	T	H	I	M	S	N
A	D	A	K	B	E	M	K	O	C	F	D	E
R	M	H	P	E	R	I	O	D	I	C	A	L
D	Q	A	F	D	F	I	L	M	S	B	C	I

NEWSPAPER
MAGAZINE
FILMS
PERIODICAL

COMMERCIAL
DRAMA
BOOKS
PAMPHLET

TELEVISION
RADIO
LECTURE
BULLETIN

ADVERTISEMENT
BILLBOARD
MUSIC

Concept

Rapid mass communication has been made possible by advancement in technology.

Instructional Objective

The learner will investigate a communication media to determine the amount and types of participation by members of various ethnic groups.

Activity 3

ACTIVITY #3

BELIEVE IT OR NOT

Materials

- Nine or ten colorful advertisements from magazines. Select ads which are factual as well as those that suggest results or benefits that are not factual.

Procedure

- Mount each ad on construction paper or cardboard.
- Show the class one advertisement. Ask such questions as:
  - What does the ad say?
  - What does it want you to believe?
  - Is there a discrepancy between what it actually says and what it asks you to believe?
  - To what human need or emotion does the ad appeal?
  - Point out the specific words or parts of the ad which make the strongest appeal.
  - Is there an untrue statement? Is there any double meaning involved?
- Repeat the procedure with another example, discussing the differences between those ads on fact and those based on opinion.
- Divide the students into groups. Give each group one ad. Ask students to evaluate the statements or inferences and decide which are factual and which are opinion.
- Ask one member of each group to summarize the evaluation for the class.
- Ask each student (or group) to "invent" a product and make a poster advertising the product. Students may use their advertisements to show an example of either fact or opinion.
- Provide time for the students to share and discuss their original ads.

Concept

Rapid mass communication has been made possible by advancement in technology.

Instructional Objective

The learner will investigate communication media to determine the amount and types of participation by members of various ethnic groups.

Activities 4 - 5

ACTIVITY #4

WHY MENTION IT?

Materials

- Newspapers
- Magazines

Procedure

- Distribute newspapers to students.
- Have students form groups with five students in a group.
- Lead students in a discussion about the various types of media.
- Discuss the elements of a well-written newspaper article, i.e., who, what, when, where, and how.
- Discuss the responsibility of the newspaper to report issues and events accurately and objectively.
- Use the newspaper articles (Exhibit A, B, C) or direct each student to select an article from his/her newspaper.
- Have students examine the articles for references to a religion or ethnicity.
- Elicit responses to questions such as:
    - Was the article factual or opinionated?
    - Why was ethnicity or religion mentioned?
    - For what purpose was ethnicity mentioned? Was it necessary? Did it enhance the objectivity of the article?
    - What was the person mentioned doing?
    - Did the mention of ethnicity or religion reinforce stereotypes?
- Help students to summarize by asking them to list valid reasons for referring to ethnicity or religion, i.e., to report a lost person, etc. Ask students to list unnecessary reasons for listing ethnicity, i.e., to report a person who opened a new business, etc.

Exhibit A

Gunman in Ohio Surrenders, Gets Phone Call From Carter

From Times Wire Services

WARRENSVILLE HEIGHTS, Ohio—A black gunman who held a white police captain hostage 45 hours in the name of freedom for blacks surrendered Wednesday and received a promised telephone call from President Carter.

"He wished me luck," the gunman, Cory Moore, told reporters after the President talked to him by telephone.

Moore gave no other details, and officials would say only that Carter telephoned Moore at 4:13 p.m., about 6 hours after the siege ended.

Moore surrendered to his diabetic hostage, Capt. Leo Keglovic, moments after watching Carter repeat during a nationally televised news conference a pledge to call.

As Moore was led by Keglovic from a City Hall room they had occupied since Monday, he said he wanted to ask Carter "why he did not speak out on poverty and why he did not apologize to black Americans for the injustices we have faced all these years."

Carter said in his televised news conference Wednesday morning that he would speak to the gunman if he released the captain.

"The request was made to me to talk to Mr. Moore," Carter said. "I replied that I would be glad to talk to Mr. Moore after the officer is released. Perhaps it is a dangerous precedent but I have weighed the decision."

Moore took the officer and Shelly Ann Kiggans, 17, a part-time clerk, hostage about 2 p.m. Monday, but he released the girl 11 hours later in exchange for a television set so he could watch media coverage of his demands.

Police Chief Craig Merchant said Moore unloaded his two pistols and gave them to Keglovic before he left the room and was turned over to other officers. Keglovic, 49, was taken to a nearby hospital for examination. He returned a short time later to tell reporters that Moore "treated me real good."

Standing outside City Hall, Keglovic said of Moore, "Basically maybe he's a little mixed up" but "he was real strong on many of the (black rights) points. We rapped pretty good after a while."

Miss Kiggans said Wednesday she was well, but "the crying comes and goes." She said she had watched television coverage of Moore's surrender, and "when I saw Cory and the captain come out, it started up again."

In a rambling news conference after he surrendered, Moore, whose original demands included one that all whites "get off the earth" and another that they burn all their money, said, "White folks don't understand black America's needs.

"There is a need for black America to come out of poverty and the hunger that exists all over the world," Moore said.

He said television's "Roots" had given "white America a chance to see why I've taken the role I've taken."

"Freedom as I understand it is not man-given, it is God-given," Moore said. "I felt my conscience is godly, and this gave me courage to take on the whole world, and that's why this happened." Moore said he felt he had not accomplished the goals he set before he took Keglovic and Miss Kiggans hostage.

Exhibit 8

Rose Bird Testifies Before Judicial Panel

Hearing Recessed; Manuel Confirmed —First Black Justice

BY GENE BLAKE
Times Legal Affairs Writer

SAN FRANCISCO—The state Commission on Judicial Qualifications Monday unanimously confirmed Wiley Manuel as the first black to sit as an associate justice of the state Supreme Court, but did not immediately act on the controversial nomination of Rose Elizabeth Bird as chief justice of the high court.

Manuel's confirmation, which came after a daylong hearing by the commission, had been expected. He made only a brief appearance before the commission, and no opposition to his appointment was expressed by any witnesses.

That was in sharp contrast to the lengthy testimony on Gov. Brown's nomination of Ms. Bird, who was the third witness to appear before the three-man commission.

Answering in part questions submitted to her by Atty. Gen. Evelle J. Younger, a member of the commission, she pledged to uphold any death penalty law that is constitutional—regardless of her personal convictions.

She did not specifically mention the death penalty, but said she was responding to one of Younger's questions that had raised that issue.

"If you are asking that if a statute was passed that was in conformity with the U.S. and California constitutions, would I strike it down based upon my personal conviction—my answer is, no," Ms. Bird said.

She said she intends to adhere strictly to the oath she would be required to take—to support and defend the Constitution.

But she said it would be inappropriate for her to state what position she might take on any particular issue that might come before her. She said that would violate the canons of judicial ethics, and go against advice given by Justice William H. Rehnquist, a conservative member of the U.S. Supreme Court.

UNOPPOSED—Wiley Manuel, whose nomination to court was approved by a judicial panel.
AP photo

Ms. Bird's nomination was supported by all but two of the first 24 of 65 witnesses scheduled to testify. The hearing will resume Friday.

The leadoff witness was retired Chief Justice Phil S. Gibson, who filled the position to which Ms. Bird has been nominated for 24 years, from 1940 to 1964.

After outlining the duties and requisite qualifications of a chief justice, Gibson said he had not known Ms. Bird until he interviewed her last week for more than an hour.

"I think she's eminently qualified," Gibson said. "She's intelligent, has a good background as a student and teacher. I think I learned more about law teaching it than I did practicing it.

"She has a fine judicial temperament, and for a judge that's important."

The commission chairman, Acting Chief Justice Mathew O. Tobriner, brought out that Gibson had served on such a commission that had reviewed 11 Supreme Court and about 50 appellate court appointments made by four governors.

15

Exhibit C

Hostages Held at 3 Sites by Muslims; 1 Slain, 10 Hurt

BY JACK NELSON
Times Washington Bureau Chief

WASHINGTON—Small bands of Black Muslim terrorists held some 100 hostages at gunpoint here early this morning more than 12 hours after killing at least one person and injuring 10 others in bizarre raids on three Washington locations.

The protest by about 10—and perhaps no more than eight—gunmen apparently was related to a 1973 mass murder case and the showing of a movie about the Islamic prophet Mohammed.

Police officials and Mideast diplomats negotiated by telephone with the terrorists late into the night in an effort to secure the release of the hostages from the District Building (City Hall), the National Islamic Center and B'nai B'rith Headquarters, all in northwest Washington.

District police reported that close to 30 hostages were still being held at the District Building, about 15 at the Islamic Center, and between 50 and 100 at the B'nai B'rith building. At least 43 hostages had been released or had escaped from the B'nai B'rith building.

Heavily armed policemen surrounded all three locations.

Late Wednesday evening FBI agent Joseph E. Dowling said there were six gunmen at B'nai B'rith, one or two at the mosque or Islamic Center, and one or two at the District Building.

When asked about the mood of the gunmen, he said, "They become very agitated at times."

Police Chief Maurice J. Cullinane and Dep. Chief Robert Rabe were reported in contact by telephone with the gunmen at B'nai B'rith. A police spokesman said, "They are negotiating very seriously."

Blacks as well as whites were among the victims. They included City Councilman Marion Barry, who suffered a gunshot wound in the stomach and was hospitalized.

The only known fatality early Thursday morning was also black—Maurice Williams, 22, a reporter for Howard University radio station WHUR, who was cut down by a shotgun blast as he and another reporter stepped off an elevator in City Hall.

President Carter directed Atty. Gen. Griffin B. Bell to keep a close watch on the situation. After conferring by telephone with the President, Bell and FBI Director Clarence M. Kelley visited the three sites. The attorney general said he would "keep in touch with" the situation throughout the night.

The apparent leader of the bands was Hamaas Abdul Khaalis, 55, whose four children were among several persons murdered in a raid by other blacks here in 1973. That raid occurred at a home that served as headquarters for the Hanafi cult that Khaalis founded after splitting from the Black Muslim followers of the late Elijah Muhammad. The home was owned by professional basketball star Kareem Abdul-Jabbar, now with the Los Angeles Lakers.

Leaders of sect have preached nonviolence, Page 21. L.A. Police alerted, Page 23. Other photos, Pages 20 to 24.

Early today, police sources said one of Khaalis' demands had been met. He had asked the return of $750 he was fined for contempt of court during the trial of the men convicted of the 1973 massacre.

Police said that $750 in cash was delivered to Khaalis, reportedly in a briefcase.

There were no further details.

In a telephone interview from the B'nai B'rith building, Khaalis told reporters he wanted persons responsible for those murders and for the murder of former Black Muslim leader Malcolm X to be brought to that building.

President Carter ordered the FBI to investigate any possible federal violations. But an FBI spokesman said late in the day that the raids at that point seemed to be purely a police matter with no national security implications.

However, the raids sent a chill through this city.

The most stringent security measures since the days of anti-Vietnam war demonstrations were clamped on official Washington. Protection was increased for members of Congress and judges and at federal agencies.

Especially heavy security was placed around District of Columbia Superior Court Judge Leonard Braman, who presided over the trial of Black Muslims convicted of the 1973 murders.

Asst. Police Chief Burtell Jefferson spoke to one of the gunmen at the Islamic Center Wednesday night through a barricaded door and later told reporters:

"He assured me that the hostages will not be harmed as long as the police don't try to storm the mosque. I told him we would play the situation by ear.

"They say they are prepared to stay there indefinitely."

The gunman told him, the "focal point" of the operation was the B'nai B'rith building (where Khaalis is in control), Jefferson said.

The terrorists at all three locations apparently were keeping in contact by telephone.

ACTIVITY #5

A TELEVISION SURVEY

Materials

- Chalkboard
- Chalk
- Duplicated T.V. Surveys

Procedure (First Day)

- Have students recall the various means of mass communication.
- Discuss television as the most popular form of mass communication among children. Ask these questions:
  - What are your favorite T.V. programs?
  - Do you think ethnic minorities are given an equal chance to participate in leading roles on T.V. programs?
- Introduce the homework assignment:
  - Instruct students to complete a survey of the T.V. programs viewed for one afternoon/evening.
  - Distribute the duplicated T.V. survey sheets.
  - Explain the task by using an example selected at random.

Procedure (Second Day)

- Discuss the television survey assignment. Ask students to report their survey results:
  - Were ethnic minorities in evidence?
  - Were all ethnic minorities equally represented during the course of the afternoon/evening?
  - Were ethnic minorities or women stereotyped? Give examples.
  - Were ethnic minorities or women depicted in subservient rolls or in leadership and action roles? Give examples.
  - Which channel seemed to be the fairest in the representation of minorities? Take a survey tally.
- Elicit total group thinking in regard to the following questions:

- Is it accurate to say that ethnic minorities and women are accurately represented on T.V.?
- If not, what can be done to depict a more accurate representation of ethnic minorities?

Extended Activity

- Have students examine T.V. commercials for the following:
  - Possible stereotypes of ethnic minorities.
  - Possible effects of the commercial on the self-image of individuals.
  - Types of roles portrayed in commercials.

TELEVISION SURVEY

Day _____ Date _____

Time	Title of Telecast	Channel	Main Characters	Role	Ethnicity
	1.		1. 2. 3.	1. 2. 3.	1. 2. 3.
	2.		1. 2. 3.	1. 2. 3.	1. 2. 3.
	3.		1. 2. 3.	1. 2. 3.	1. 2. 3.

Concept

Technological advancement has enabled scientists to develop ways of controlling or conquering many diseases thus increasing the average life span of individuals.

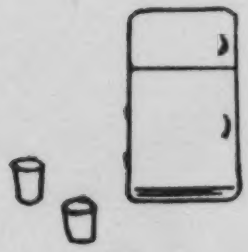
Instructional Objective

The student will identify some technological advancements that have benefited the health of people.

Activities 6 - 8

ACTIVITY #6

KEEPING IT COOL



Materials

- Small container of milk
- Dixie paper cups

Procedure

- Place a glass of milk in the classroom to become warm.
- Invite students to taste the warm milk.
- Discuss with students their reactions to the warm milk.
    - How did the milk taste?
    - Did you like it?
    - Do you ever drink warm milk at home?
    - Why is milk kept cold?
    - How long do you think warm milk would keep fresh?
- Ask how milk is kept cold in homes, in restaurants, and in other public places.
- Discuss the ways that milk was kept cool and fresh before refrigerators were constructed, i.e.,
    - many people had cows and needed to keep milk for only a few hours
    - milk was put into a natural spring of water or lowered into a cistern
    - in cold weather milk was kept in an outside window box
    - ice boxes were used before refrigerators were invented.
- Leave the glass of milk in the classroom overnight so that the milk will sour.
- Allow students to observe, smell, or taste the sour milk.
- Let students discover the way that milk changes when it is not kept cold.
- Ask students to name the ways that sour milk can be used.

- Ask students to name some soured or spoiled foods that cannot be eaten or used, i.e., meat, fruit.

- Ask students to name other things that must be kept cool, i.e.,

    - some medicines and vaccines
    - burns
    - sprains
    - computers.

- Ask students how keeping medicine cool helps people, i.e.,

    - Fresh medicine helps people get well
    - Well people live longer.

- Lead students to conclude that people have healthier, longer lives because of refrigeration which preserves foods and medicines.

ACTIVITY #7

INCREASING THE LIFE SPAN

Materials

- Health textbooks
- Health stories - Exhibit A-G

Procedure

- Introduce the lesson with a newspaper article about some health problem.
- Discuss the problem and what is currently being done to solve it.
- Propose this question: "In the field of health, what have been the effects of the discovery and development of new materials, methods, and techniques?"
- Write the question on the chalkboard.
- Elicit responses from the students
- List responses on chalkboard.
- Have students utilize textbooks and health stories in a research reading lesson to gather further data.
- Circulate around the room and give assistance as needed.
- Have students assemble into a group discussion circle.
- Have the question reread from the chalkboard.
- Guide students in a discussion about the information they found in their research reading. Some of the discussion questions might be:
    - What has been done to aid the control of diseases?
    - How has the discovery of drugs been beneficial to people?
    - What has been discovered about antibiotics?
    - Many vaccines have been developed to control diseases.

In what ways have vaccine injections been improved since they were first developed?

- What effect has surgery had on the control of disease? What types of surgery have you heard about recently?
- What has been the effect of modern methods of transportation on air pollution? In what way does this effect health?
- How has the improvement of food preservation affected world health? What is being done to help countries that do not have an adequate food supply?
- How can the quality of human health be improved?

- Conclude the discussion by asking students to make a summary statement in regard to the effects of the discovery and development of new materials, methods, and techniques in the field of health.

- Record responses on the chalkboard.

- Cross off the responses that are not pertinent to the question.

- Add other responses that need to be listed, i.e., healthier people live longer lives.

Extended Activity

- Have students construct a time line showing discoveries in medical research.

AIR POLLUTION

The world's food supply is being threatened by pollution. Pollution is the presence of any material which makes a place unclean or unsafe to live. Pollution becomes a problem when it affects the health of living things.

Air is made up of gases which surround the earth. Materials which are not necessary parts of the air enter the air from cars, trains, planes, power plants, and mills. The result of tnese materials entering the air is called pollution.

Air pollution may affect the food supply in many ways. It can keep plants from growing; it can keep the sun's rays from reaching plants and animals. In what other ways is air pollution harmful to the health and well-being of living things?

ANTIBIOTICS

Antibiotics are germ-fighting substances produced by certain micro-organisms and molds found in the soil.

An Englishman, Sir Alexander Fleming, discovered penicillin accidently. One day in 1929 he noticed that the bacteria he was growing in a Petri dish had a blue-green mold on it. He started to throw the mold away but noticed that around the mold was a substance produced by the mold. That substance had checked the growth of the bacteria. He called this substance penicillin.

By 1939 a way was learned to produce penicillin in large quantities. Penicillin has proven to be the most valuable bacteria-fighting substance ever developed.

In 1944, in America, another research team, headed by Selman Waksman, discovered other antibiotics. These antibiotics included streptomycin, aureomycin, and terramycin.

DRUGS

Quinine is one of the first drugs discovered to kill germs already in the body. Quinine is made from the bark of the cinchona (sin-ko'-ne) tree.

Quinine has been used for centuries by the Inca Indians of South America to combat malaria. It was introduced in Europe in the 16th century.

At the beginning of the 20th century, scientists began a systematic search for more drugs that would fight germs in the body without harming the body itself. The first breakthrough was in 1935 in Germany, when Gerhard Domagk announced the discovery of sulfanilamide (sulfa). Sulfa drugs have proven to be very effective in fighting many kinds of infections and diseases.

Exhibit D

FOODS

Modern transportation and better methods of food preservation have made it possible to have a larger variety of foods all during the year. Foods can be kept for long periods of time by canning, freezing, dehydrating or by adding preservatives such as vinegar or salt.

At one time people ate only what they could grow which often did not make a well-balanced diet. Improved methods for producing, processing, and transporting foods have enabled many people to have a larger variety of foods.

In some parts of the world people do not get enough food. Many people are hungry and undernourished; they get diseases. The Food and Agriculture Organization of the United Nations is working to help countries throughout the world increase their food supplies. Other organizations are distributing surplus foods from areas of plenty to areas of scarcity. The rapid growth of the world's population makes the work of these groups continually more difficult.

Exhibit E

PASTEURIZATION

Louis Pasteur, A French chemist, performed many experiments with germs during the years of 1882 to 1895. He found that by heating milk the growth of germs in milk could be stopped. This process is called "pasteurization." It was named after Pasteur who originated it. Pasteur's experiments contributed to the health and well-being of humanity.

Exhibit F

SURGERY

The first form of surgery was tried by Indians during the Stone Age. A small hole was cut in the skull to relieve pressure or to remove a foreign part.

Modern surgery has been developed after the 1840s when anesthesia was discovered. Anesthesia stops feeling over the entire body or parts of the body. The first person to use anesthesia was a dentist, W. T. Morton, of Boston. He used ether to deaden the pain while he pulled a tooth. In 1846 the first operation using ether was performed. Using ether allowed the doctor to be able to work more carefully and more slowly.

Many other anesthetics and techniques for using anesthesia have been discovered. Machines have been made to provide instant reports on the patient's pulse, blood pressure, and heart action during surgery.

Improved instruments have helped to make advances in surgery possible. A major discovery was the X-ray machine. It was made in Germany in 1895 by Wilhelm Konrad Roentgen. Through the use of X-ray machines, surgeons can see inside the human body. This enables a surgeon to prepare more effectively to operate.

There are many devices that have been made to prolong life. One example is the pace-maker which can be planted in the body to regulate the heart beat of a damaged heart.

Transplantation of body parts is a more recent procedure used to save lives. Some parts are artificial; some are healthy, living replacements.

VACCINES

Vaccines are injected into the body to prevent certain diseases. They contain weakened germs that cannot make a person very ill. The body builds natural antibodies to fight the disease.

The first vaccine was developed in 1796 by an English doctor named Edward Jenner. He discovered the vaccine that kills smallpox although he did not understand the reasons for the vaccine's success.

In 1881, a Frenchman named Louis Pasteur, who had studied about the germ theory of disease, discovered a vaccine that would kill anthrax in sheep. In 1885 Pasteur developed a vaccine that would cure rabies.

The most dramatic advance in the fight to controlling diseases occurred with the development of polio vaccines in 1954 and 1955. These vaccines were developed by Jonas Salk and Albert Sabin in the United States. These vaccines control the dreaded virus that destroys cells and paralyzes muscles.

Many other vaccines have been developed to control disease. Some may be given together in one injection. This is called a triple vaccine. Diptheria, whooping cough, and tetanus innoculations may be given in a triple vaccine.

ACTIVITY #8

LIVE LONGER

Materials

- Copy of Health Practices of the Past - Exhibit A
- Chalk
- Chalkboard
- Sample of weeds, grass, flowers

Procedure

- Say to students, "On the table are some plant samples which can be found growing in many yards or vacant lots near school. They are here for you to see because there is a possibility that these plants were once very important to the people who were the early pioneers of this area.
- Allow time for students to examine the plants.
- Have students take their seats for discussion.
- Either read aloud the story, "Some Health Practices of the Past," (Exhibit A), or select a student to do so.
- Ask learners to think about what they have just heard.
- Ask students if they believe that the story contents might be true.
- Encourage learners to discuss the article.
- On the board write the heading,

Technology and Health

Past Present Future

- Ask learners to tell of the "home or folk" remedies they know about.
- List a few of these on the chalkboard.
- Ask learners to look at the list and ask themselves what might happen if people still practiced medicine that way instead of going to the doctor.

- Ask students if they think it would be safe for everyone to follow a remedy that worked for a neighbor or friend? Why? Why not.

- Ask students what precautions were taken in case the method did not work.

- Tell students that the population of the United States has increased and people have a longer life span than the people who lived one hundred years ago.

- Ask learners to think of the health efforts, practices, etc., which have produced this increased life span.

- List students' ideas on the board.

- Guide learners to think in terms of:

    - Vaccinations
    - Immunizations
    - Heart Pacers
    - Iron Lungs
    - Transplants
    - Kidney Machines
    - Artificial Limbs
    - Blood Transfusions
    - Food and Drug Control
    - Surgical Procedures
    - Sanitation
    - Diet
    - Health Education
    - Public Health Facilities
    - Medicine
    - Research
    - Insurance (clinics, hospitals)

- Discuss current practices in the above areas.

- Ask learners to think of the problems that they feel will need to be addressed in the future. Concerns should include:

    - Pollution control (world) (air, water, soil)
    - Disease control (world) (heart, cancer)
    - Prevention medicines (world) (allergies)
    - Health education (world)
    - Sanitation (world)
    - Food and drug control (world)
    - Mental health

- Guide learners to conclude that the advances made by medical technology have helped to lengthen the life span of humans. The increased life span results in an increasing need for:

    - A good health education program for all people.
    - Conservation of natural resources on a world-wide basis.
    - Continued research in the field of medicine and disease.
    - Balanced diets for all people.
    - Expansion of health programs and facilities for all people.
    - Disease prevention programs.
    - Mental health programs.

Exhibit A

SOME HEALTH PRACTICES OF THE PAST

If you had lived during the pioneer days and had become ill, you probably would not have been taken to a doctor, especially if you lived in a mountain area. Your parent, probably your mother, would have used some home remedy that she thought was successful. In those days there were not enough doctors for the number of people. Doctors were called only when there was an emergency or when the home remedy didn't work.

People learned to make do with what they had. They used kerosene oil, turpentine, sugar, and many other commodities around the home. Different people used different remedies for the same illness. Although some of these remedies undoubtedly worked, many of them were useless. "The remedies themselves stand as a weighty testament to the ingenuity of an all but vanished race." (Foxfire, Book 1, pg. 230)

Domesticated plants and wild plants grown in the forest were plentiful and provided herbs and roots for making vegetable concoctions. Poultices were made of many varieties of plants mixed with animal oil and were applied to ailing parts of the human body.

After a long winter, spring was considered to be the time to refresh the spirit and tone up the body with a tonic. Teas and beverages were used as tonics. Roots and barks were gathered, dried, and stored to be ready when needed. Sugar, honey, or syrup was added to the brew for sweetening. The most common spring tonics used were sassafras, spice bush, and sweet birch.

The early settlers had some knowledge of European medicines, but they learned how to use indigenous medicines from the Indians. Making tea from the bark of a birch tree to cure weakness of the limbs, the treatment of burns with the juice of a male fern, using tree moss boiled in red wine to cure dysentery, manufacturing salve from tobacco, and frying elder leaves in butter for the treating of wounds, probably originated with the Indians.

On the western frontier in the 18th century Indian meal, or slippery elm bark, was used for burns. Sweating was the general rule for fevers. Chestnut bark and white plantain were used as snake bite remedies; sometimes, salt and gun powder were also used. Gunshot wounds were treated with poultices of elm bark or flax seed. Rheumatism was treated with oil from such forest animals as raccoons, bears and rattlesnakes.

In Appalachia folk remedies were a combination of remedies borrowed from the early settlers and from the Cherokee Indians. Some Appalachian remedies were spikenard root tea for backaches, wild cherry bark tea for measles and colds, poultices of cornmeal and peach leaves for boils, and yellow root tea for stomach disorders.

Some of the other more commonly used remedies were:

Arthritis.....drink a mixture of honey, vinegar, moonshine whiskey.
Bleeding.....apply a poultice of turpentine and brown sugar.
Burns.....apply linseed oil or the scrapings of a raw potato.
Colds.....drink tea made from boneset or ginger root.
Earache.....blow smoke into the ear; pour in warm sewing machine oil.
Heart trouble...drink tea made of heartleaf leaves or root of the bleeding heart plant.

Measles.....use any herb tea, add whiskey.
Nosebleed.....hold nickel under nose and press tightly.
Toothache.....use burned alum on tooth.
Whooping cough....use mixture of ½ cup brown sugar, juice of three lemons, one bottle of olive oil. Take one teaspoon of the mixture.

Folk cures have declined since the advances in scientific medical research, the introduction of medical insurance plans, free services, and the general availability of present day medical care. The use of fewer medicines of botanical origin has been ascribed to the development of organic chemistry. The chemist is able to build the desired molecular structure synthetically and to produce substances that have valuable medicinal properties.

Another reason for the decline in using botanicals has been the difficulty of standardizing vegetable drugs. Vegetables would have unequal strength due to obstacles in cultivation or the time of harvesting. Some plants have maximum strength only when collected at a certain time.

Americans have become less dependent on foreign drugs and have gained more knowledge about their own native material for medicines. Some Indian medicines used by the early colonists have gained official recognition in medical research:

Hydrastis.....first used by the Cherokee Indian, gained medical attention in 1798.
Lobelia.....form North American Indians, introduced to medical profession by Dr. Cutler of Massachusetts.
Ipecac.....Commonly used among natives of Brazil, added to European medical use in 1672.

Medical research teams have studied many of the traditional medicines and practices and refined those which were the best. Through successful

research, health education, and better sanitation methods, some diseases such as smallpox and yellow fever have almost been stamped out.

The diseases and health problems which cause the greatest number of deaths are steadily being researched. The successful outcome of these efforts will assure people of even longer and healthier lives.

Concept

Technological advancement has enabled scientists to develop ways of controlling or conquering many diseases thus increasing the average life span of individuals.

Instructional Objective

The student will examine the availability of medical services and facilities to people in Los Angeles.

Activities 9 - 10

ACTIVITY #9

MEDICAL SERVICES

Materials

- Chalkboard
- Chalk
- Paper
- Pencils
- Map of community (Los Angeles)

Procedure

- Display Los Angeles map on side portion of chalkboard.
- Ask each learner to take a few seconds to greet the three people nearest to him/her.
- Have learners sit in a discussion circle.
- Ask four or five learners to tell how they greeted their friends, i.e., "How are you?"
- Have students note that our concern for each other's health has become a customary part of our greeting and response.
- Say to learners, "We automatically wish the other person good health, but have you thought of what is meant by good health? What do you think good health means?"
- List the student ideas about good health on the board,i.e., good vision, good nutrition, freedom from colds, weight control, good hearing, etc.
- Ask students to read the list to determine if all of their ideas have been listed.
- Remind students that human bodies are like machines and that to function at the best level each body needs care that goes beyond a person's daily efforts and knowledge.
- Ask students where they or their families go for the help and care they need to keep well and healthy.

- List answers from several learners. Encourage different responses. Possible student responses might be Ross Loos, Kaiser, the clinic, the hospital, the dentist, etc.

- Ask learners to think of two general categories under which these suggestions could be listed. Guide students to identify the categories of Health Care and Health Facilities.

- Help learners to regroup their lists under these headings.

- Ask the learners to look at the many things that they thought of as "good health." Ask students whether the listed items were left totally to the skill of others or whether each person must also help himself or herself? If each person must help himself/herself, where does a person find out about personal health care?

- List the learners answers on the board, i.e., at school, at home, from a friend, from the doctor.

- Indicate that these answers could be summarized under the heading, Health Education.

- Record the category, Health Education, next to the other two categories on the board.

- Remind students of their entry into school. Ask if anyone recalls the vaccination and/or innoculations which were required. Ask why these were necessary. Ask what form of health care this would be. Ask about the category for flu shots. Encourage students to arrive at Preventive Care as a category.

- Record Preventive Care on the board as one of the major categories.

- Ask learners to think of one other area of major health concern throughout the world. Elicit from students the category of Environmental Health. Allow time for discussion of sanitation, pollution, etc.

- Say to learners, "We have listed what we are concerned about when we speak of good health. We have listed the places or resources to which we turn to maintain our good health. We have the categories under which our concerns about health may be placed.

- Say to learners, "We are going to locate our school community and home communities on the map of Los Angeles and then locate some of the health facilities and resources that are available to the people in these communities."

- Plan with the learners to continue the lesson the next day. Each learner will then share information regarding the community health resources by doing one of the following homework assignments:

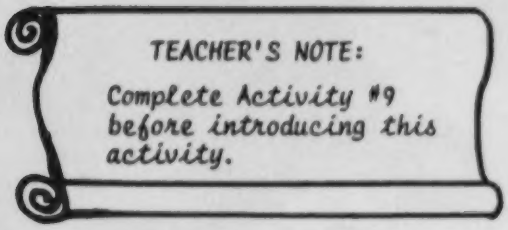
    - Interview a doctor or nurse.
    - Research health resources information at the neighborhood library and give a report.
    - Interview relatives and list the information.
    - Bring in brochures from health offices.

- Leave today's information on the chalkboard for the next day's lesson.

Vol. III Impact of Technology Back Up

ACTIVITY #10

HEALTH FACILITIES



Materials

- Map of community
- Colored map tacks
- Small colored flags
- Small confetti type pieces of paper
- Chalk
- Chalkboard

Procedure

- Have students collect phamphlets and books about community health facilities.
- Have students read the information they have gathered regarding community health facilities or resources.
- Suggest the following headings for recording the information:

  Private Group Public

- Explain the financial backing of private, group, and public facilities.
- Have students read silently and determine under which category each facility belongs. Allow a few minutes for this to be done.
- Have students read aloud the name of their facility. Place each item under the appropriate category on the chalkboard.
- Have students compare the lengths of the lists.

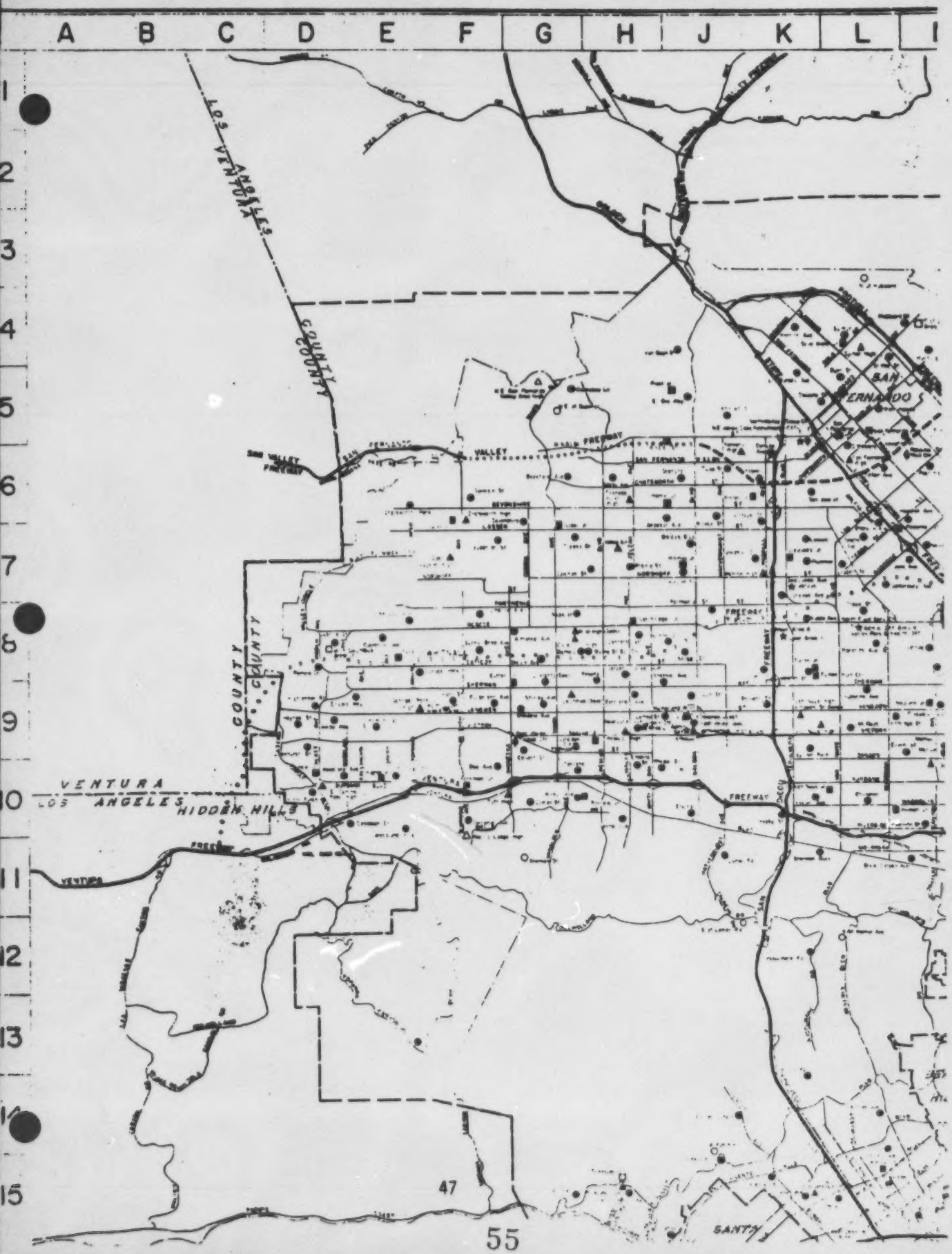
- Ask students to give possible reasons for the differences in the lengths of the lists. Learner responses may include:
    - Most people like to have a private doctor.
    - Most people like to belong to a group. You go where you don't have to wait very long.
    - Poor people go to the county health offices.
- Ask students to use the map of the community to locate the health facilities that they have on their lists.
- Ask students how the different places could be color coded to correspond with the heading of each of the columns:
    - Use colored paper.
    - Use colored ink.
    - Use colored map tacks.
    - Use colored flags.
- Select three colors and have the students begin to locate the various facilities on the map.
- Ask learners to think about the costs involved in health services. Ask:
    - "What does this map tell you about the ability of people in this community to pay for service?"
    - "What would an absence of flags indicating private or group health services tell you about the community income?"
    - "What would it tell you about the kind of service that the public health facility would be able to offer?"
    - "Do you think that wealthy people, average income people, or poor people have more problems in maintaining good health?"
- Ask learners to pretend that they live in a community that is very poor. Ask students what could be done to help improve the health conditions for people in that community.
- List the suggestions made by the learners, i.e., more doctors, more clinics.
- Guide learners to conclude that health education is necessary if all people are to reap full benefit from available facilities. Some important ideas are:
    - An individual should have knowledge of diseases which are common to the specific ethnic group of which he/she is a member.

- Individuals should have knowledge of what is being done to prevent, screen, or control those diseases.
- Individuals should have knowledge of the importance of taking advantage of immunization programs.
- Individuals should have knowledge of the importance of annual health examinations.
- Individuals should be aware that research in the areas of control and/or prevention of disease is making rapid progress due to advancement in technological skills, i.e., computers, hospital equipment.
- Individuals should be aware of the personal responsibility each person has in making the decisions necessary for maintaining his/her personal health.
- Individuals should be aware of the importance of maintaining open communication lines between the community and public health personnel.
- Individuals should work to help the total community incorporate good health as a part of its value system.
- Individuals should become familiar with and utilize all of the health facilities available within their community.
- Individuals should be aware of the need to request services needed but not available within their community.

It's worth remembering that....

Dr. Emilio Segre, an Italian-American, won the Nobel Prize in physics in 1959 for his research in the structure of matter.

In 1952, Dr. Selman Abraham Waksman, a Jewish-American, received the Nobel Award for his discovery of streptomycin.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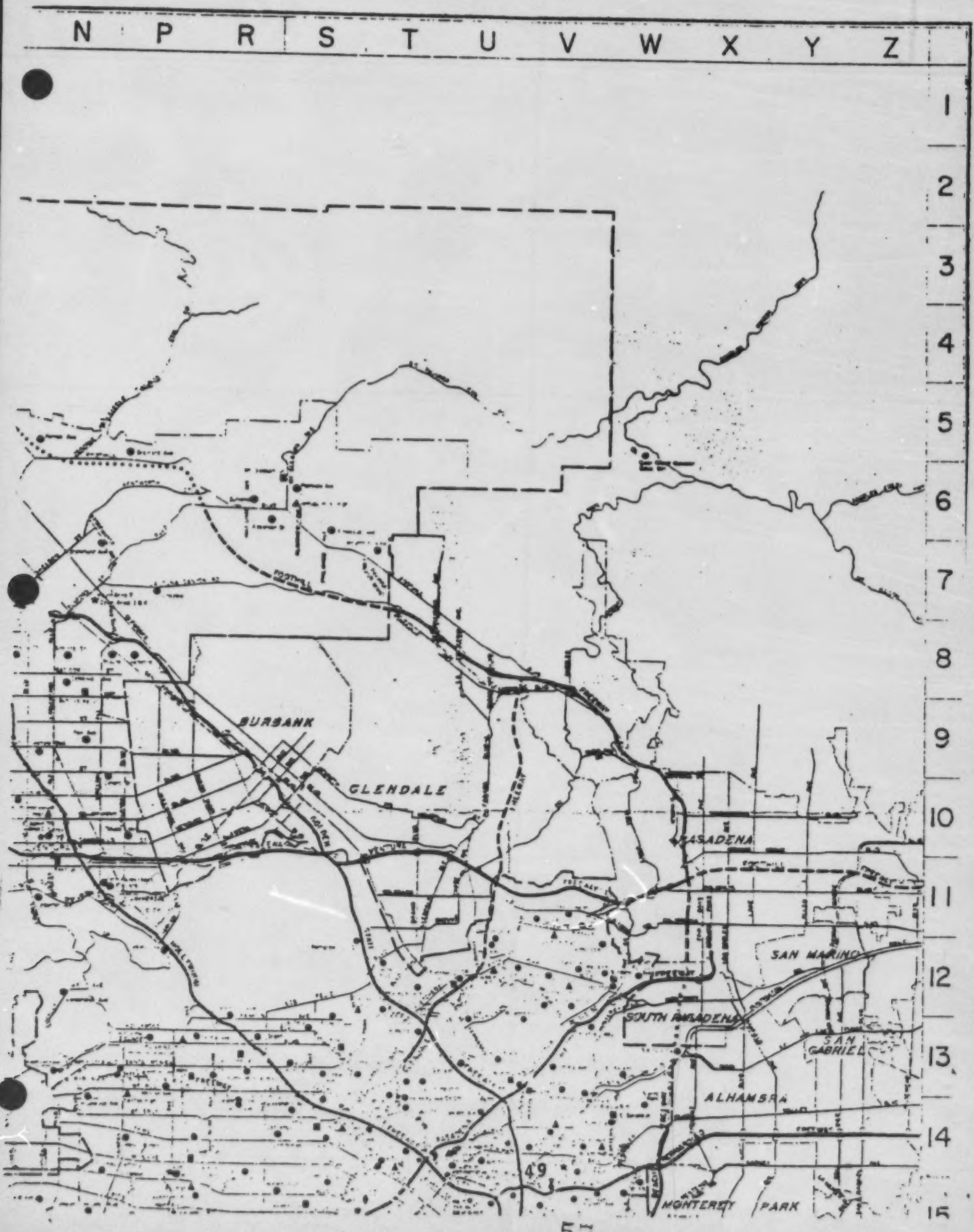
SANTA

It's worth remembering that.....

Dr. Antonio Saqueton, a Filipino-American, worked successfully for legislation which would permit foreign trained doctors to compete on equal basis with American trained doctors for work in all hospitals. A test, acceptable to all state boards throughout the country, is used.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GLENDALE
PASADENA
SAN MARINO
SOUTH PASADENA
SAN GABRIEL
ALHAMBRA
MONTEREY PARK
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It's worth remembering that.....

Dr. Charles Drew, a Black-American, researched and developed the process for dried blood plasma. The use of the plasma during World War II was instrumental in saving thousands of lives.

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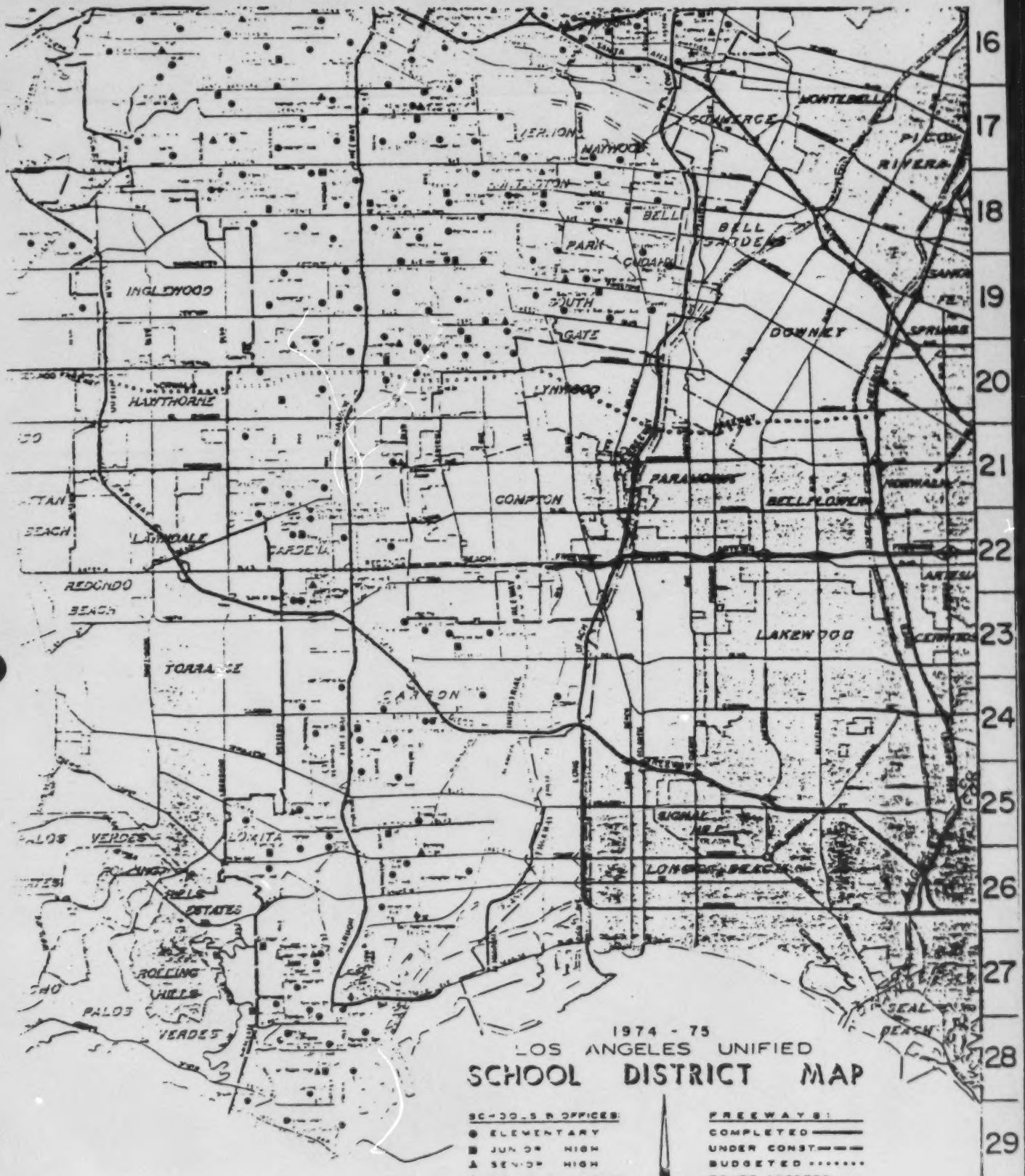
It's worth remembering that.....

Dr. Blue Spruce, an American Indian dentist, was appointed in 1971 to head a major new program designed to improve the health of the American Indian. He was named Special Assistant to the Director of Health, Education and Welfare, Bureau of Health and Manpower Education to recruit Indians into various health professions in cooperation with the Indian Health Service.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PARAMOUNT
BELLFLOWER
DOWNEY
LAKEWOOD
LONG BEACH
SIGNAL HILL
SEAL BEACH
MONTEBELLO
COMMERCE
PICO RIVERA
PALOS VERDES ESTATES
ROLLING HILLS
PALOS VERDES
1974 - 75
LOS ANGELES UNIFIED
SCHOOL DISTRICT MAP
SCHOOL & OFFICES:
ELEMENTARY
JUNIOR HIGH
SENIOR HIGH
ADULT EDUCATION
ADMINISTRATION
FREEWAYS:
COMPLETED
UNDER CONST.
BUDGETED
ROUTE ADOPTED
N P R S T U V W X Y Z

It's worth remembering that.....

Dr. Hector P. Garcia, a Mexican-American, received the Bronze Star and other awards for bravery during World War II. His interest in helping the returning soldier adjust to a new role as a civilian led Dr. Garcia to found the American G.I. Forum. His success in this program was instrumental in his appointment as United Nations alternate delegate by President Lyndon B. Johnson. Since then, he has been appointed (1968) as a member of the Commission on Civil Rights.

Concept

Advancement in technology has resulted in an increased demand for workers with specialized skills.

Instructional Objective

By examining statistics in regard to employment in the United States, the student will determine percentages of employment, regions of employment, and work participation by age groups by male and female groups, and by ethnic groups.

Activity 11

ACTIVITY #11

THE WORLD OF WORK

Materials

- Statistical charts, A through H

Procedure

- Assist students to examine the information on each chart.
- Guide students in a discussion which focuses on the questions that follow each chart. Help students to utilize information from each chart to answer the questions. Some questions will require that students utilize inference skills.

CHART A

Historical View: Percentages of Employment in the United States

Year	Number of Persons in Working Population	Percentage of Persons in Farm Occupations	Percentage of Persons in Non-Farm Occupations
1820	2,881,000	71.8	28.2
1900	29,073,000	37.5	62.5
1970	82,897,000	2.9	97.1

Chart A Discussion Procedure

- Define with students the following terms used in the charts:
  - Blue collar worker...a term primarily used to designate industrial workers. The term originated from the color

of many work shirts. It includes such trades as craftsmen, mechanical workers, physical laborers, etc.

- White collar workers...a term which originated from the white shirt typically worn by clerical, professional or other workers employed in work not essentially manual. It includes such groups as professional and technical workers, managers, administrators, sales and clerical workers.
- Service workers...a term which designates those whose work provides a service to others, such as personnel of the police and fire departments. It may refer also to domestic workers who are employed by private individuals.

- Have students identify the kinds of jobs that might be included under the heading Non-Farm jobs. List examples on the chalkboard. (Non-Farm jobs might include factory, office, sales, service jobs, etc.) Discuss with students the various kinds of training necessary to perform each task.

- Ask students these questions:

  - What percentage of the United States working population were farmers in 1820? (71.8%)
  - What percentage are farmers today? (2.9%)
  - How many more working persons were farmers in 1820 than in 1970? (68.9%)
  - What percentage of the working population in 1920 was engaged in non-farming occupations? (28.2%)
  - What percentage in 1970? (97.1%)
  - How many more are in non-farming positions in the 1970s? (68.8%)

- Have students compare the change in figures for both types of occupations. Have students note the direct reversal in trend.

- Ask students what reasons they could give for the change in the kind of work most working people are doing today as compared with 1820. (Machinery and assembly [illegible]e work, women entering the work force, mental kinds of work [illegible]eplacing physical, development of postal service and rapid com[illegible]nications services, etc.)

- Ask students to identify some examples of work today that has almost exclusively replaced the physical labor of the 1820s:

  - Uses of farm machinery.
  - Banking and credit procedures replacing direct buying, selling, and trading.
  - Development of businesses and corporations based on activity of the stock market.
  - Fairly immediate transportation and communication enabling extensive business development.

CHART B

Participation by Race in Occupational Groups
(Employed persons 16 years of age and over)

Occupational Group	Percentage of Change in Employment for Blacks & Others, from 1974-75	Percentage of Change in Employment for Whites, from 1974-75
White Collar Worker	+ 4.2	+ 0.9
Blue Collar Worker	- 9.4	- 5.6
Private Household Worker	- 6.5	- 3.6
Service Workers	+ 1.8	+ 3.7
Farm Workers	- 6.7	+ 3.3

Chart B Discussion Procedure

- Clarify with students the fact that in the column marked "Change from 1974-75" the numbers with a minus sign in front of them show where there has been a decrease in the number of people holding that job; a plus sign means an increase in the number of persons holding that kind of job.
- Have students examine the chart to identify the kinds of jobs that show an increase of blacks and others for 1975 as compared with 1974. Ask which jobs showed an increase of whites. (Blacks and others showed an increase in white collar and service jobs; whites showed an increase in white collar, service, and farm jobs.)
- Ask students what conclusions they can draw from the information on this chart. (Some job categories are becoming more available to blacks and others. Both groups show an increase in white collar and service jobs, and a decrease in blue collar and household jobs. The chart indicates the availability of jobs in professional, technical, management, administration, clerical, and sales [white collar] and in public service [blue collar] for those individuals possessing the necessary specialized skills.)

CHART C

Regional Manufacturing Statistics for the United States - 1972
(Census of Manufacturers 1972 Report)

Regions	Value Added From Manufacturing
New England Division (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island)	$ 22,732,600
Middle Atlantic Division (New York, New Jersey, Pennsylvania)	70,625,400
Northeast Central Division (Ohio, Michigan, Wisconsin, Illinois, Indiana)	99,638,300
Northwest Central Division (Minnesota, Dakotas, Kansas, Nebraska, Iowa, Missouri)	23,519,800
South Atlantic Division (Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida)	43,918,900
Southeast Central Division (Kentucky, Tennessee, Alabama, Mississippi)	21,336,200
Southwest Central Division (Arkansas, Louisiana, Oklahoma, Texas)	24,832,600
Mountain Division (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada)	7,315,300
Pacific Division (Washington, Oregon, California, Alaska, Hawaii)	40,016,400

Chart C Discussion Procedure

- Ask these questions:
  - Which region shows the greatest profit from manufacturing activities? (Northeast Central - $99,638,300)
  - Which region shows the least amount of profit from manufacturing activities? (Mountain Division - $7,315,300)

- In which regions of the country are many manufacturing jobs likely to be offered? (Middle Atlantic Division, Northeast Central Division)
- If profitable industry is located in a state, will that help add to the wealth of the state or region? How? (Incomes received by workers and spent on manufactured goods provide for money to feed back into the manufacturing process.)

Vol. VI. Impact of Technology Front 5

CHART D

Employment Percentages - 1975

Of 9,070,000 "Blacks and Others" employed in 1975:

34.2%	were White Collar Workers
37.4%	were Blue Collar Workers
4.9%	were Private Household Workers
20.9%	were Service Workers
2.6%	were Farm Workers

Of 75,713,000 "Whites" employed in 1975:

51.7%	were White Collar Workers
32.4%	were Blue Collar Workers
1.0%	were Private Household Workers
11.3%	were Service Workers
3.6%	were Farm Workers

Chart D Discussion Procedure

- Ask students which group, in 1975, had the largest percentage employed in white collar jobs (whites, with 51.7%)
- Ask students which group had the most blue collar workers, service workers, and private household workers. (Blacks and others, with over 60% employed in these kinds of jobs.)
- Ask students what comparisons they can make about the kinds of jobs most whites hold as compared with the kinds of jobs most blacks and others hold. (It appears that in 1975 more whites had the kinds of jobs that require more education and probably provide higher wages, and may be cleaner and less physically demanding kinds of work.)

CHART E

Weekly Earnings in Selected Cities for Occupation of Accounting Clerk

	Men	Women
San Francisco	$ 186.50	$ 172.50
Albany, New York	177.00	155.00
Worcester, Massachusetts	170.50	160.50
Birmingham, Alabama	185.00	151.50
Houston, Texas	180.00	149.00
Toledo, Ohio	195.50	162.00

Chart E Discussion Procedure

- Ask students the following questions:
  - Which group of accounting clerks receives the highest income - men or women? (Men)
  - Assuming that both men and women are doing the same kind of work, what would be the reason for the differences in salary? (Men have often traditionally received higher wages than women performing the same work.)
  - Does this seem fair to you? If not, what changes would you make?
  - According to this chart, in which section of the country is there the greatest difference between men and women's wages for the same job? (Birmingham, Alabama)

CHART F

Employed Persons by Major Occupational Groups and Sex

Annual Average - 1975 Occupational Group	Per Cent Distribution		
	Both Sexes	Males	Females
Total Employed	1.00	1.00	1.00
White Collar Workers	49.6	41.3	62.9
Managers and Administrators	10.5	14.0	5.2
Clerical Workers	17.8	6.5	35.1
Blue Collar Workers	33.0	45.3	14.1
Service Workers	13.7	8.6	21.6
Farm Workers	3.5	4.8	1.4

Chart F Discussion Procedure

- Ask students these questions:
  - In 1975 did many women, compared to men, work in blue collar jobs? (No) Do you think this will change in the future? (Yes, perhaps, as machinery replaces the need for heavy physical work.)
  - Under the heading White Collar Workers, what percentage of men held positions as managers and administrators in 1975? (14.0) Women? (5.2) How do the figures compare? (Three times as many men held administrative positions as compared to women.) Are there any changes you would like to see made about jobs for women?
  - How many more women than men were employed in white collar clerical jobs? (Almost six times as many women as men.) Why do you think there are so many more women than men in this kind of work? Do you think a man could be a good secretary? Do you think a man should have a chance to be a secretary if he wants to? Do you think a man should mind having a women for a boss? Why or why not?
  - What job do you think you would like to have if you were going out into the work world tomorrow? Do you think being well qualified for the job is an important think to consider? How would you feel about hiring a man or woman if both applied for the same job?

CHART G

Composition of the Civilian Labor Force and Unemployment - 1976

Race, Sex, and Age	Unemployment Rate-1976
Men, 20 years and older	6.0
Women, 20 years and older	7.1
Teenagers, 16 - 19 years old	18.4
White	6.8
Black and Other	13.3
Total	51.6

Chart G Discussion Procedure

- Lead a group discussion which focuses on the following questions:
  - Which group has the highest unemployment rate? (Teenagers, age 16 - 19) How would you explain this? (Lack of experience and education.)
  - What two groups show the lowest figures for unemployment? (Men and Whites)
  - What do you find when you compare the unemployment rate of Whites to Blacks? (The unemployment rate for Blacks is more than twice as high as that for Whites.) Why do you think this is so? What can be done to improve the situation?
  - What reasons would you give to explain the following fact? "In urban areas and central cities inhabited mainly by minority and poor, the jobless rate is 30%." What can be done to improve the situation? (Increase availability of education and skill training, fair hiring practices.)

CHART H

Education and Income Discrimination: Male and Female, Black and White (March 1975)

Group	Annual Income with 12 Years of Schooling	Annual Income with 18 Years of Schooling
White Males	$ 12,010	$ 17,499
Black Males	8,877	11,360
White Females	4,760	7,546
Black Females	4,787	8,874

Chart H Discussion Procedure

- Ask students which group after 12 years of schooling earns the most. (White Males)
- Ask students which group shows the greatest increase in income as the educational level gets higher. (White Males)
- Have students add the earnings for all men. ($49,746)
- Have students add the earnings for all women. ($25,976) Ask how women's salaries compare with men's. (Women as a group earn a little over half the salary that men earn.)
- Ask students what can be done to improve the situation. (Equal salary for equal work and training.)

Concept

Advancement in technology has resulted in an increased demand for workers with specialized skills.

Instructional Objective

The student will identify three conditions necessary to equalize employment opportunities for members of minority groups.

Activity 12

ACTIVITY #12

THE CAREER OPPORTUNITY GAME

Materials

- Gameboard - Exhibit A
- Game Directions - Exhibit B
- Person Cards - Exhibit C
- Job Cards - Exhibit D
- One die
- Markers for the players, 2 - 4 (small toys, colored paper, pop bottle caps, etc.)

Procedure

- Remove the Exhibits A, B, C, D pages from the monograph.
- Mount the two pages of the gameboard on tag or cardboard and color it with felt pens. Laminate the gameboard or cover it with contact paper.
- Cut out the person and job cards and mount them on tag. Laminate or cover them with contact paper.
- Copy or cut out the game directions.
- Let the students play the game in groups of two, three, or four students.
- When most or all of the students have played the game, lead a class discussion about the game. Some discussion questions might be:
    - What are some of the qualifications a person needs to get a job that he/she wants? (Training and experience)
    - Why do employers want trained employees?
    - If a person has the experience and training for a job, is it fair not to get the job because of race or sex?
    - Have job opportunities been limited by race and sex in the past?

- How do employers hurt themselves by limiting their employees to one group?
- What are some other characteristics that sometimes make getting a job difficult? (Appearance, age, physical handicaps) Should these factors control who gets a job? Why? Why not?

- Summarize the discussion by making these points:

  - The technological society in America today continually requires more specialized skills and greater training of people who seek jobs.
  - Job opportunities should be equally available to all people irrespective of race or sex.

Extended Activity

- Make more job cards to include additional careers.

- Lead group discussions about some of the items on the job cards.

"Delay of justice is injustice"

W. S. Landor

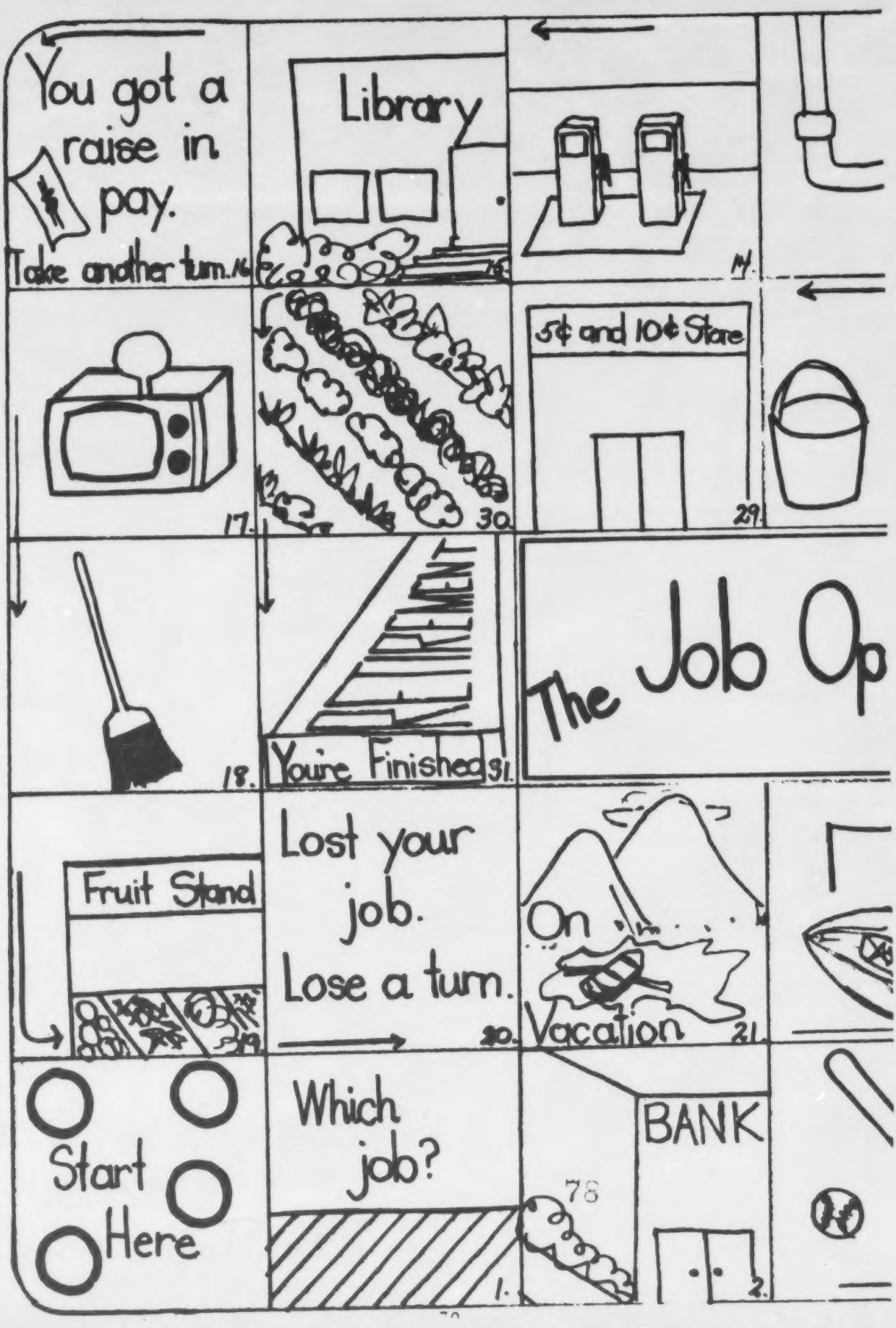
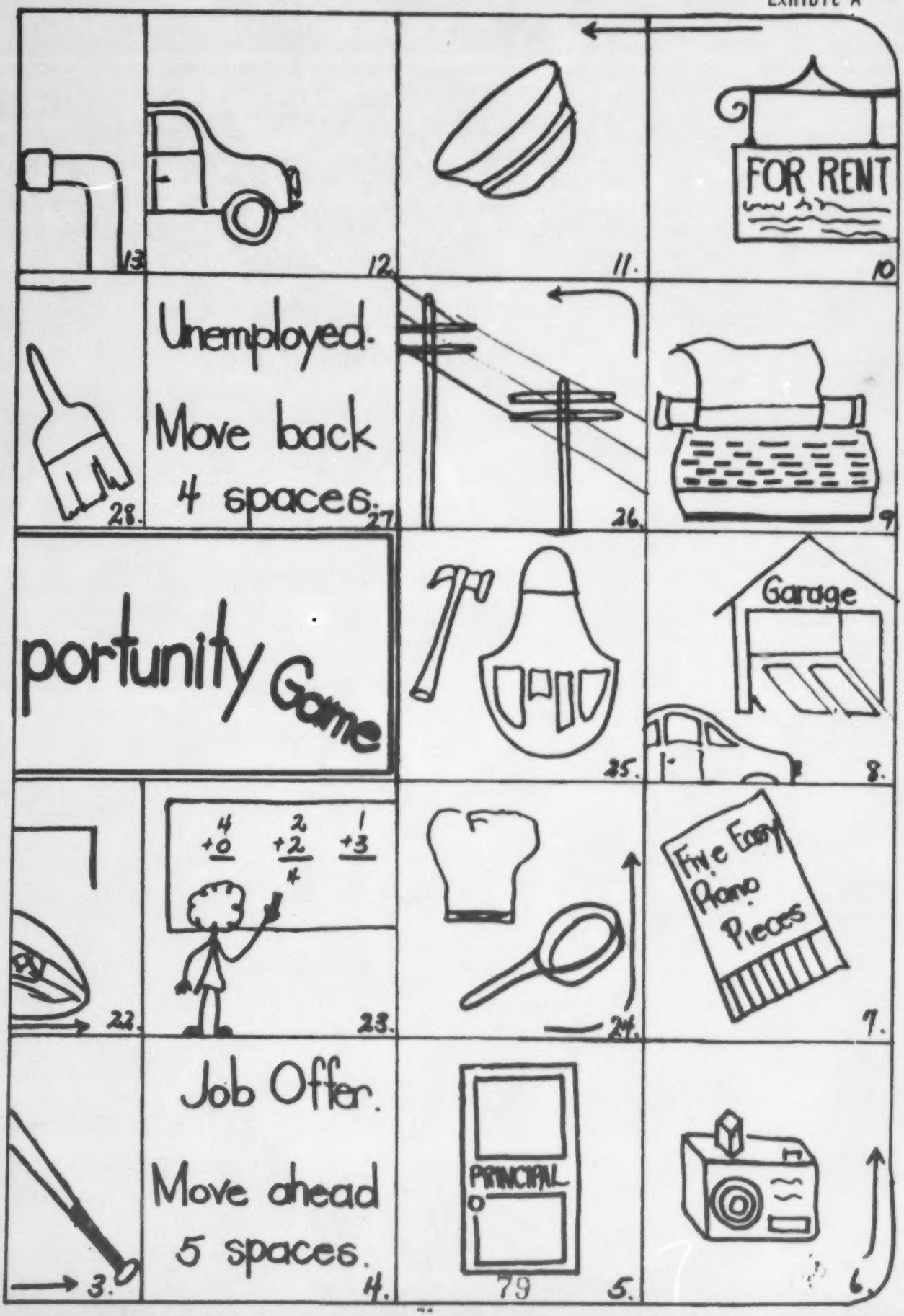

You got a raise in pay.
Take another turn. 16.
Library
15.
14.
17.
30.
5¢ and 10¢ Store
29.
18.
Youre Finished
31.
The Job Op
Fruit Stand
19.
Lost your job.
Lose a turn.
20.
On Vacation
21.
Start Here
Which job?
1.
78
BANK
2.

EXHIBIT A


FOR RENT
Unemployed.
Move back
4 spaces.
portunity Game
Garage
Five Easy
Piano
Pieces
Job Offer.
Move ahead
5 spaces.
PRINCIPAL
13.
12.
11.
10
28.
27.
26.
9
25.
8.
22.
23.
24.
7.
3.
4.
5.
6.

GAME DIRECTIONS

- To begin playing, each player throws the die. The person who throws the highest number on the die gets the first turn. The play then goes to the person to his/her right. The first person to reach "Retirement" wins.
- Throw the die and move the number of spaces shown on the die.
- Take a Person Card on each turn to see the group to which you belong.
- Take a Job Card each turn. If your group isn't mentioned, stay where you are. If it is mentioned, follow the directions on the card.
- When the Person and Job cards have been used up, shuffle them and reuse them.

PERSON CARDS

B.M. You are a Black Man.	B.M. You are a Black Man.
B.W. You are a Black Woman.	B.W. You are a Black Woman.
W.M. You are a White Man.	W.M. You are a White Man.
W.W. You are a White Woman.	W.W. You are a White Woman.
H.M. You are an Hispanic Man.	H.M. You are an Hispanic Man.
H.W. You are an Hispanic Woman.	H.W. You are an Hispanic Woman.
A.M. You are an Asian Man.	A.M. You are an Asian Man.
A.W. You are an Asian Woman.	A.W. You are an Asian Woman.
A.I.M. You are an American Indian Man.	A.I.M. You are an American Indian Man.
A.I.W. You are an American Indian Woman.	A.I.W. You are an American Indian Woman.

JOB CARD

ACCOUNTANT

W.M. ..... You're well qualified. You're hired. Move ahead 4 spaces.

A.I.M. ..... The personnel officer of the company says he has never heard of an American Indian accountant. His "stereotype" of Indians is that they all prefer the outdoor life. He finds that you have all the qualifications, however, and hires you. Move ahead 4 spaces.

W.W. ..... You're well qualified. You're hired. Two weeks later you find that you're being paid less a week than any of the men doing the same work and hired at the same time. You call your local public library reference department to find out where to file a protest about this and quit the job. Stay where you are.

A.W. ..... You're well qualified. You're hired. Two weeks later you find that you're being paid less a week than any of the men doing the same work and hired at the same time. You've only recently come to this country, and you're not sure what to do. It takes six months for you to find out how to file a protest with the Equal Employment Opportunity Commission. You hesitate six more months as you worry about finding another job. Finally you file and quit the job. Stay where you are.

Vol VIII Impact of Technology Backs

JOB CARD

AUTO MECHANIC

B.M. ..... You have taken auto mechanics in high school and helped out at you're uncle's garage. You're hired. Move ahead 4 spaces.

H.M. ..... Your high school didn't have an auto mechanics course and you had no opportunity to get experience. The man who owns the job says you're not qualified. Move back 4 spaces.

W.W. ..... You've been out of high school for ten years. When you went to high school the girls were required to take cooking and weren't allowed to take auto mechanics. However, you just went back to junior college and took courses there. You'll be the first woman auto mechanic hired at this garage. Move ahead 4 spaces.

W.M. ..... You're qualified and have had experience. You're hired. Move ahead 4 spaces.

JOB CARD

BANK PRESIDENT

W.M. ..... You belong to the same club as the men who are doing the hiring. You frequently have lunch with them. The job is yours if you want it. Throw die, go ahead double the number.

H.W. ..... No Hispanic women are being considered for this job. Go back 3 spaces.

B.M. ..... The bank considered you, but they decided your ghetto education just didn't measure up. Go back 2 spaces.

W.W. ..... The bank just received a federal directive that says they must hire women in executive jobs. Move ahead 2 space .

W. Tit. Impact of Technology Front 6

JOB CARD

BANK TELLER

Up to this time in this town all bank tellers have been white women.

W.W. ..... The job pays minimum wage and there's little chance for promotion. However, the job is yours if you want it. Move ahead 1 space.

A.W. ..... The bank officials are beginning to realize that they must make a start toward integration. Their "stereotype" of Asians is that they are neat and careful. They offer you the job. Move ahead 1 space.

H.W. ..... They turn you down. They say your English isn't good enough. Move back 2 spaces.

W.M. ..... The bank officials feel that this job isn't suitable for a man. They tell you to look for something else. Move back 2 spaces.

JOB CARD

COLLEGE PROFESSOR (PRIVATE COLLEGE)

W.W. ..... The college personnel officer says you're very well qualified but the college has a rule that they don't employ both husbands and wives, and your husband already works here. Too bad for you; this is the only college for 100 miles. Go back 4 spaces.

H.W. ..... The college personnel officer says you're very well qualified but the college has a rule that they don't hire women with small children and you have two pre-school children. Go back 4 spaces.

B.M. ..... The college personnel officer says that your college (the only one in your area that admitted blacks when you were college age) was not accredited so you can't have the job. Go back 4 spaces.

A.M. ..... The college personnel officer says the college has a rule that only people born in this country can have this job. You were born in Hong Kong. Go back 4 spaces

JOB CARD

DOMESTIC WORKER

Up to this time in this town most domestic workers have been black women.

B.W. ..... You are hired for this job even though you haven't had any experience. It's assumed you can do the job. Move ahead 2 spaces.

W.W. ..... The person hiring you is surprised that you prefer this job to working in a store, but she gives you the job. Move ahead 2 spaces.

W.M. ..... The person hiring says that she just wouldn't be "comfortable" having a man domestic worker. Move back 2 spaces.

A.I.W. ..... The person hiring checks your references very carefully as she has never heard of an American Indian domestic worker before. You have good refererences and much experience so you're hired. Move ahead 2 spaces.

JOB CARD

ELEMENTARY TEACHER

Up to this time in this town most elementary teachers have been white women.

H.W. ..... Good. You're bilingual, and they really need you in the schools. Move ahead 4 spaces.

B.M. ..... They offer you a job; however, the school district is integrating teachers, and it means a drive of an hour each way from your home. Move ahead 2 spaces.

W.W. ..... Sorry. The school district has received a federal directive to integrate, and due to past hiring practices the district has no openings for white women at this time. Go back 4 spaces.

A.I.W. ..... The school board didn't feel your reservation education was adequate. Go back 4 spaces.

JOB CARD

FIRE FIGHTER

Up to this time in this town all the fire fighters have been white men.

H.M. ..... Sorry, you don't meet the height requirement of 5'10" that this fire department specifies. Go back 4 spaces.

A.M. ..... Sorry, you don't meet the height requirement of 5'10" that this fire department specifies. Go back 4 spaces.

W.W. ..... Sorry, you don't meet the height requirement of 5'10" that this fire department specifies. Go back 4 spaces.

W.M. ..... You are the only one of four applicants who can meet the height requirement. The hiring official remarks to you that the department really would prefer to hire a minority person as it has had a directive to integrate, but you're the only one who applied who meets the height specification. Go ahead 4 spaces.

JOB CARD

HAIR STYLIST

H.W. ..... You are a graduate of a beauty school and state licensed. However, the shop owner says she hires only experienced people. Go back 4 spaces.

A.M. ..... You are a graduate of a beauty school, state licensed, and have five years of experience. The shop owner hires you. Move ahead 4 spaces.

B.W. ..... You are a graduate of a beauty school, state licensed, and have five years of experience. The shop owner says she's never had a black hair stylist and is doubtful, but you talk her into giving you a try. Move ahead 4 spaces.

W.M. ..... You are a graduate of a beauty school, state licensed, and have no experience. The shop owner hires you anyway because she feels a man hair stylist adds prestige. Move ahead 4 spaces.

JOB CARD

HIGH SCHOOL PRINCIPAL

Up to this time in this town all high school principals have been white men.

W.W. ..... You have very high qualifications for this job. The school board questions you very carefully about your willingness to attend all the evening football games and dances. They think a woman might not be as willing as a man to attend school events in the evenings. You convince them and get the job. Move ahead 4 spaces.

H.W. ..... You have very high qualifications for this job. The school board questions you very carefully about whether you feel you are assertive enough to maintain discipline. Their "stereotype" is that Hispanic women are domestic. You convince them that you can handle any problem that comes up. Move ahead 4 spaces.

W.M. ..... You have very high qualifications for this job. The school board assumes you can do it and hires you. Move ahead 4 spaces.

JOB CARD

NURSE

Up to this time in this town most of the nurses have been white women.

A.M. ..... The hospital personnel officer says it is more "suitable" for a man to work as a technician. Move back 2 spaces.

B.W. ..... You have better qualifications than any of the white applicants. They hire you. Move ahead 4 spaces.

W.M. ..... Can a man be a nurse? The hospital has never had one, but they hire you as a first. Move ahead 4 spaces.

H.W. ..... The hospital personnel officer finds that you are very fluent in both English and Spanish and have a fine education from a Mexico City hospital. He hires you. Move ahead 4 spaces.

JOB CARDS

RECEPTIONIST

B.W. ..... You're told the company is sorry, but the job has already been filled. Move back 4 spaces.

H.W. ..... You're told the company is sorry, but the job has already been filled. Move back 4 spaces.

A.I.W. ..... You're told the company is sorry, but the job has already been filled. Move back 4 spaces.

W.M. ..... You're told the company is sorry, but the job has already been filled. Move back 4 spaces.

(A week later you notice the ad for the job is still being run in the newspaper.)

JOB CARD

STORE CLERK

Up to this time only white clerks have been employed in this store.

W.M. ..... You are an experienced clerk. You apply and are hired. Move ahead 4 spaces.

W.W. ..... You are an experienced clerk. You apply but are told you are too old. They need someone younger and faster moving. Go back 4 spaces.

B.M. ..... You are an experienced clerk. You apply, and they hesitate. You mention the Equal Employment Opportunity Commission. They decide to hire their first minority clerk. Move ahead 4 spaces.

A.I.W. ..... You have just moved to this city from a reservation. You have not had the opportunity to gain any work experience. You're not hired. Go back 4 spaces.

JOB CARD

TRUCK DRIVER

Up to this time in this town all truck drivers have been male.

H.W. ..... The owner of the trucking company says that he knows there are some women truck drivers but he just doesn't think they can do the job. Go back 4 spaces.

W.W. ..... The owner of the trucking company has a "stereotype" of white women as being delicate ladies. He says this is a job for a rough, tough man, despite the fact that you've been driving a tractor on your father's farm since you were 13. Go back 4 spaces.

B.M. ..... The owner of this trucking company has never employed a black as a driver. He is recently beginning to realize that he has been unfair. He decides he will "take a chance." He hires you. Move ahead 4 spaces.

H.M. ..... The owner of this trucking company has never employed a minority person until recently. He wants to wait and see how it works out with one before he hires another. Move back 4 spaces.

JOB CARD

T.V. CAMERAMAN

Up to this time in this town all T.V. cameramen have been men. All but one has been a white man.

A.I.M. ..... Their "stereotype" of American Indians is that they are "primitive" and "unmechanical." They just don't believe an American Indian could do the job. Move back 4 spaces.

A.W. ..... They think you are too small and weak to lug around that heavy camera, despite the fact that it weighs less than your year-old twins. You carry them around with no difficulty at all. Move back 4 spaces.

W.M. ..... Too bad. You don't belong to the union, and they rarely let new members join. Move back 4 spaces.

B.M. ..... You majored in T.V. Technology at U.C.L.A. You had hoped to be a director. Your cousin is the only black T.V. cameraman in town. He can help you get into the union. Move ahead 4 spaces.

JOB CARD

WAITER

Up to this time at this restaurant all the waiters have been black men.

W.M. ..... You are an experienced waiter. You apply and are told that the restaurant has a policy of hiring only black waiters. You file a protest with your union. Go back 2 spaces.

H.W. ..... You are an experienced waitress. You apply and are told that the restaurant has a policy of hiring only black men waiters. You file a protest with the Equal Employment Opportunity Commission. Go back 2 spaces.

B.W. ..... You are an experienced waitress. You are told that the restaurant has a policy of hiring only black waiters. You file a protest with the Equal Employment Opportunity Commission. Go back 2 spaces.

B.M. ..... You have not had experience as a waiter, but you've heard that this restaurant employs black men waiters. It's the only one in town that does. You apply but are turned down because you have no experience. Go back 2 spaces.

Concept

Educational opportunity must be available to all people so that each individual can prepare to live and work productively in a rapidly changing technological society.

Instructional Objective

The learner will compare past and present educational institutions and opportunities.

Activities 13 - 14

Vol. IV Impact of Technology Back 7

ACTIVITY #13

EDUCATION LONG AGO

Materials

- Pictures of Learning from Parents, Colonial Dame School, Early American School - Exhibits A, B, and C
- Colored pens, pencils
- Paper

Procedure

- Present the outline drawings contained in this activity. Elicit discussion about early schools in this country and the pupils who attended them.
- Duplicate the drawings for students to complete. Have students write stories or reports to accompany the pictures.
- Have students imagine what it would be like not to have education. List responses on chart paper. Have students imagine what it would be like if only some people were allowed to acquire education. Ask pupils how they would feel if they weren't allowed to have an opportunity to learn to read or to learn arithmetic skills.
- Have pupils try to imagine what it would be like if only certain children were allowed to go to school and others weren't permitted to attend any educational facility.
- Explain to the class that not all children have always been allowed to go to school. Explain that equal opportunity for education has not always been available to all people. Continuing discussion should reinforce the concept that educational opportunity must be equally available to all people in order to prepare each human being for living and working in a rapidly changing, technological society.

Extended Activity

- Have students find out more about schools long ago. Students may be interested in finding out about schooling by apprenticeship,

schools during the colonial period, or schools during the westward expansion of this country.

- Have students make lists comparing schools during the period of westward expansion with schools today.
- Have pupils draw or depict, using any appropriate art media, a school room today and a school room long ago. A LONG AGO-TODAY display can be arranged on the bulletin board.
- Have pupils develop skits to demonstrate the differences technological advances have made in education.

Vol. VII Impact of Technology Unit 9

Learning from Parents

Colonial Dame School

Early American School

ACTIVITY #14

WHY EDUCATION?

Materials

- Duplicated copies of student worksheets in the following amounts:

  Worksheet #1 - enough for 1/3 of class
  Worksheet #2 - enough for 1/3 of class
  Worksheet #3 - enough for 1/3 of class
  Worksheet #4 - enough for entire class

- References from school library:

  Encyclopedia volumes containing "education" articles
  Almanacs

- Pencils

Procedure

- Lead students in a discussion about education as they see it, and elicit from students some of the purposes of education. Some of the following questions may be asked:

  - Why do you attend school?
  - Do you learn the same things that your mother or father learned?
  - When your education is complete, what do you think you will have learned that will help you as an adult?
  - Do you know any adults who attend school? If so, what kind of school? Why does he/she attend school?
  - Do you have any idea how a person qualifies to teach children or adults?
  - Do you think people receive all of their education in schools or colleges or are there other ways to get education or training? How? Where?

- Complete the discussion by asking students to continue to investigate the subject of education. Point out that their own educations will greatly affect their future lives and that it would be very appropriate for them to know more about it.

- Divide the class into three groups. Ask each group to investigate one of the following topics:

- Education in Ancient (Prehistoric) Times
- Education in Early American Times
- Education Today

- Distribute copies of the appropriate worksheets #1, 2, and 3 to students in each group. Explain to students that they should read and investigate until they are able to answer the worksheet questions. Explain that they may discuss findings and their answers with other members of their own group and that they must be prepared to report their findings to the class as a whole on a given date. Be specific about the date.

- After all worksheets have been completed and each group is ready to report back to the class as a whole, provide time to do so. Be sure to establish standards for listening and discussion during group reports.

- At the conclusion of the group reports distribute copies of the fourth worksheet. Ask students to take time to consider the purposes of education in the future. Ask them to use the worksheet to guide their thinking but not to limit it. Remind them to use additional paper to record ideas of their own which may not be included on the worksheet.

- Conclude the lesson with a discussion of students' opinions as stated on their worksheets.

WORKSHEET #1

EDUCATION IN PREHISTORIC TIMES

Who taught the children? _____

What kinds of knowledge (or kinds of skills) were needed for adult living? _____

_____

How was knowledge passed on from the wiser people to the children? ____

_____

How were skills learned? _____

Do you think that the education of a person in prehistoric times prepared him/her for a successful life? _____ Why or why not? _____

_____

- - - -

WORKSHEET #3

EDUCATION TODAY

Who teaches children? How are they qualified? _____

_____

Who attends school? _____

How does our education prepare us for adult living, including use of leisure time? _____

How are adults retrained when their employment skills have become obsolete due to technological advances? _____

Who makes up the unskilled labor market? _____

Why? _____

- - - -

ANSWER KEY

WORKSHEET #1

- Parents or elders.

- Food gathering or hunting.
  Food preparation.
  Tool making.
  Skills in use of tools.
  Clothing preparation (in all but very tropical climates).
  Shelter preparation or location.
  Shelter maintenance.
  Defense skills.

- Word of mouth and demonstration (modeling) techniques.

- The skilled taught the unskilled, probably on a one-to-one basis.

- This is an evaluative, open-ended question. Accept all reasonable answers.

ANSWER KEY

WORKSHEET #2

- Parents and sometimes school teachers.

- Only children of well-to-do parents attended school until widespread free public education became available in the mid 1800s.

- Children from poor families.
  Children from slave families.
  Children from very rural areas often had no school to attend.

- Formal schooling (reading, writing, arithmetic) prepared students for higher level jobs in business, management, government, etc.

  Young people who became apprentices in crafts or trades were prepared for the skilled labor market. These opportunities were limited to men.

- Some skills were learned at home.
  Some skills were learned at school.
  Some skills were learned while participating in apprenticeships under the direct supervision of a skilled craftsman or tradesman.

- The unskilled labor market was made up of:

  - Slaves.
  - Indentured servants.
  - Immigrants who were imported as an inexpensive labor force.
  - Immigrants who did not speak English, the language of the country, had difficulty in finding jobs in the skilled labor market although some individuals arrived already trained in job skills and were able to find employment.

- Accept any reasonable, evaluative answer to the "why" portion of the question.

ANSWER KEY

WORKSHEET #3

- Public or private school teachers. They are qualified by education, training, experience, and hold certificates granted by states allowing them to teach children.
- All children who are physically able to do so.
- Provides basic skills to all (reading, writing, math, etc.) for some fields (industrial arts, typing, etc.).

  Provides broad and specific training for employment in professions, services, etc.

  Trade union apprenticeship programs educate people for specific skills.

  Schools are only beginning to educate people in the use of leisure time. This is most frequently done in the area of adult education.
- Federal, state and local agencies retrain some individuals.

  Some people are not retrained, and they then become part of the unskilled labor force.

  Some schools provide retraining to individuals who can afford the time or money to attend.
- The unskilled labor market includes:
  - Individuals who did not complete enough education to achieve a skill.
  - Minorities who may have been denied a place in an apprentice program due to discrimination.
  - Many individuals who do not speak English.
  - Individuals whose job skills have been made obsolete due to technology.

Accept any reasonable, evaluative answer to the "why" portion of the question.

ANSWER KEY

WORKSHEET #4

The entire worksheet dealing with future education is speculative. Therefore, accept any evaluative answer which is reasonable.

Concept

Educational opportunity must be available to all people so that each individual can prepare to live and work productively in a rapidly changing technological society.

Instructional Objective

The learner will identify the ways in which technology has had an impact on education.

Activities 15 - 16

ACTIVITY #15

TECHNOLOGY AND EDUCATION

Materials

- Time line
- Paper
- Pencils
- Chalkboard or chart paper
- Discussion questions
- Art materials

Procedure

- Have students review technological advances in the United States by using the time line. (See Exhibit A)
- Divide the class into small discussion groups. Have students discuss which technological advances have had an impact on education and which inventions have made changes in education.
- Have students list the inventions or technological advances that have made changes in any aspect of education. Have this done while students are still in their discussion groups. A recorder and discussion leader might be chosen to fascilitate this activity.
- Have the group discussion leaders or recorders report to the entire class the results of the discussions.
- Record the items (technological advances) that each group reports. Each item need only be listed once in the composite list which may be made on the chalkboard, overhead projector, or chart paper.
- Have the class move into one large circle for class discussion. The following questions may be used to guide the discussion:
    - Before the invention of the automobile and the development of buses, how did students get to school?
    - How did pre-automobile transportation limit the opportunities for education?

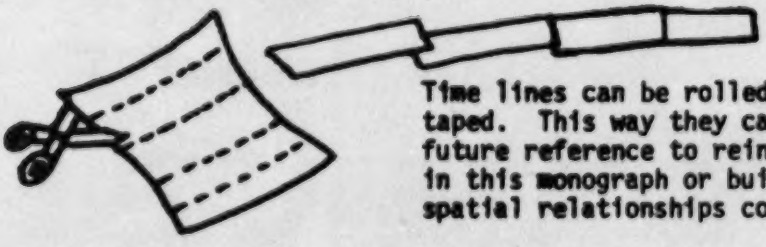
- How did automotive equipment change opportunities in education?
- Before the use of gas and electric heating and cooling systems, how were school buildings kept cool or warm?
- How did "old-fashioned" ways of cooling or heating a school building limit the opportunities for education?
- How have modern means of heating and cooling buildings changed opportunities for education?
- Before the invention of the electric light, how were schools lighted?
- How did the invention of the electric light make changes in education?
- Before the development of electronic communication devices (record players, audio-tape machines, film projectors, T.V., telephones, etc.), how were pupils taught?
- How did the lack of electronic devices limit the opportunities for education?
- How did the invention of electric communications media change opportunities for education?
- Have all people in the United States had an equal opportunity for education? How about physically impaired home-bound children? How about rural children? How about poor children? How about children from different ethnic and racial groups? How about children whose home language was other than English?
- Have technological advances created a situation in which there are greater possibilities for more equal opportunities in education for all Americans? What about opportunities for higher education?

- Call on students to synthesize the discussion.

- Ask if any hypotheses or conclusions can be drawn from the discussion.

- Have pupils use the time line in reviewing how changes in technology have increased the opportunities for education.

- The time line can be cut apart and taped together on the reverse side. Colored pens can be used to accentuate the illustrations.



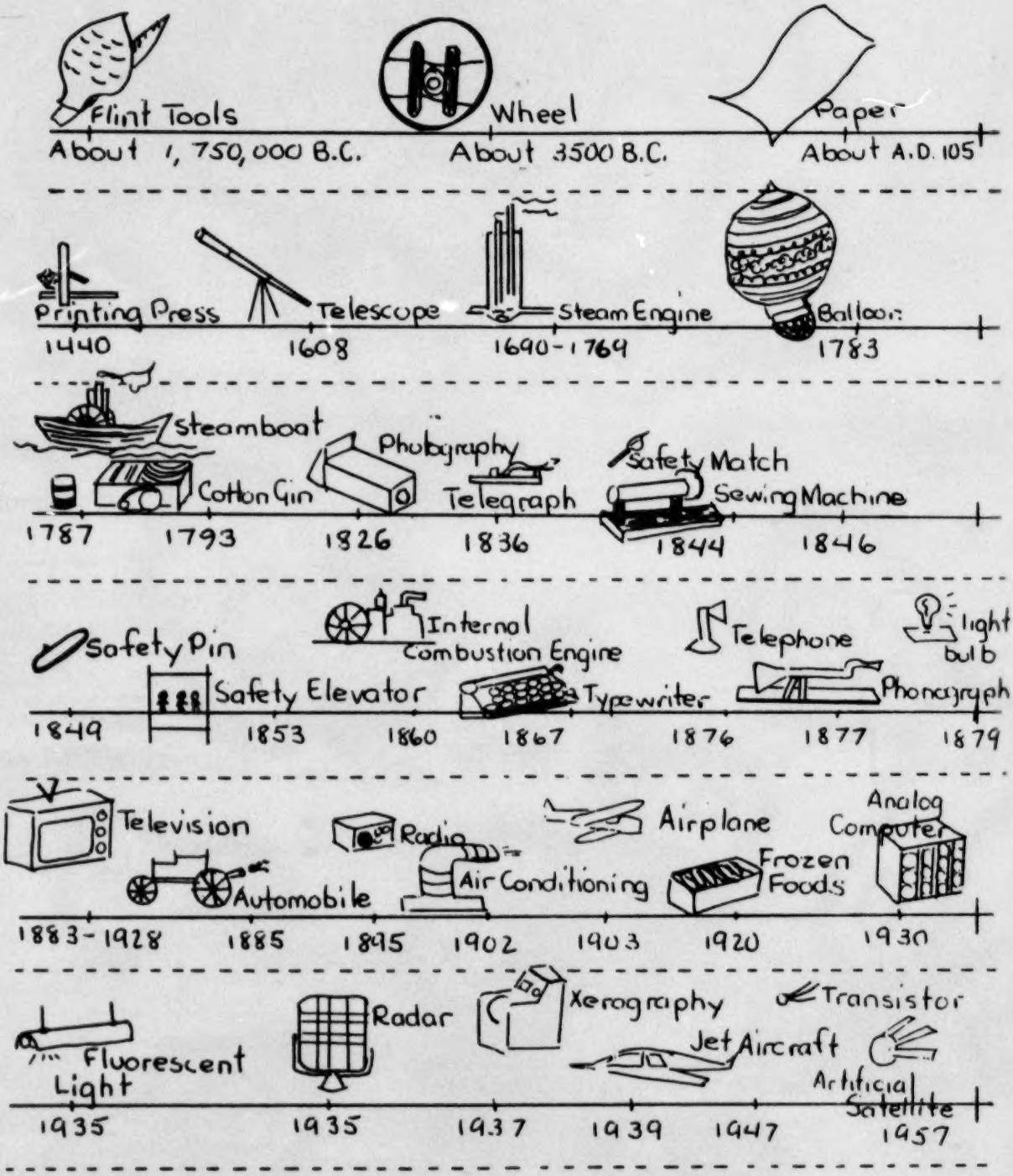
Time lines can be rolled and the end taped. This way they can be saved for future reference to reinforce concepts in this monograph or build time and spatial relationships concepts.

- Assist pupils to conclude that educational opportunity must be equally available to all people in order to prepare each human being for living and working in a rapidly changing technological society.

Vol. VIII Impact of Technology Packs

Exhibit A

Which inventions have made changes in education?



ACTIVITY #16

THE JOB I WANT

Materials

- Classified sections (Help Wanted ads) of local newspapers in amounts sufficient for each student to have one section. All papers need not be alike.
- Pencils, paper
- Graphs (one for each pupil) - Exhibit A
- Job Retraining background information sheets - Exhibit B

Procedure

Distribute copies of the classified section of the newspaper. Ask students to look through the section to determine the kinds of jobs that are available for individuals at this time. Explain the abbreviations used by the newspaper.

- Ask students to list at least five jobs that are of interest to them and that they might like to consider at some time in their future. Explain that job listings for such things as dentists, doctors, attorneys, and teachers do not generally appear in classified newspaper ads but are located through college placement offices, professional organizations, etc. Ask students to consider, for this activity, only those jobs listed in their newspapers.
- Ask students to look carefully at the education, training, and experience requirements for jobs listed. Ask students which of the requirements could <u>not</u> be provided by a school, i.e., experience.
- Have students list the education and/or training requirements of the jobs they have chosen.
- Have students list the kinds of skills which would be learned in education or training programs for their chosen jobs. Circulate among the students and give assistance with this activity or discuss a few sample sets of skills with the class as a whole. Example: <u>Travel Agency Employee</u> - skills needed: excellent telephone voice, friendly manner for sales, ability to read well, ability to read schedules, fares, etc., mathematical ability to compute the most reasonable rates at hotels, plane

fares, etc., typing skill for completing itineraries, skill in working well with people in order to assist them in planning a satisfying trip.

- Ask students to look at their list of skills needed and circle all the skills which they feel are possible to learn in school.

- Distribute copies of the duplicated graph (Exhibit A). Ask each student to copy his/her job list into the left hand column and to turn the paper and write in the skills needed across the top.

- After each job have the student check the skills needed for it.

- Have each student tally the skills at the bottom of each column and determine which are the most frequently needed skills.

- Conduct a discussion with students concerning their findings and direct the questioning toward ways in which they feel that school is preparing them for a future in the employment market. Ask whether there are any basic skills which seem to be necessary for any and every job.

- Continue the discussion by asking students to think about what they would do if the job they had chosen and had worked at for years and years suddenly was no longer important in society or was taken over by a machine or computer and they could no longer earn a living with that job.

- Distribute compies of background material concerning Job Retraining (Exhibit B), or read the selection to students.

- Have students discuss the article. Ask these questions:

    - Why are skill centers being planned?
    - Where are many skill centers located? Why?
    - For what types of work do skill centers train people?
    - Why are fewer people engaged in farming today than in the past?
    - Why are fewer people engaged in mining today than in the past?
    - What implication does this have in relation to skill centers and job retraining?
    - What people should be admitted to skill centers? One ethnic group? All ethnic groups?
    - What other places retain people? (Adult night school, colleges, special schools.)
    - What people should be admitted to these schools? One ethnic group? All ethnic groups?

- Ask students to ask their family and adult friends whether or not they have attended school or job retraining centers since they got their first job and how they felt about job training.

- Ask students to consult the local television schedule and make a list of all the adult educational offerings they can locate.

- On a succeeding day ask students to report their findings. Have students review the ways in which education is attempting to prepare people for adult living in a rapidly changing technological society.

- Assist students to write a summary statement about the importance of and need for all people to have the opportunity to receive lifetime education, job training, and job retraining.

Exhibit A

SKILLS NEEDED	JOBS						TOTALS

JOB RETRAINING

Excerpted from World Book Year Book, 1968, Field Enterprises, Chicago, 1968, pp.102-103

Skill Centers

"Skill centers are being planned in many large cities to provide training and retraining for youngsters who leave high school and want to qualify for skilled occupations in industry on subprofessional and technical jobs in health, science, and many other service fields. In addition, there are technical institutes under federal sponsorship and a vast range in in-school and on-the-job training programs financed by labor and industry. Corporations and unions alike have embraced the concept that their prosperity will be enhanced by a better educated work force - with social awareness and skill in human relations as prized as managerial or mechanical adeptness."

Farming

"The disadvantages of inability to adjust have been painfully illustrated by the march of technological progress... Farming, which once provided employment for more than half of all American workers, now accounts for less than 5 per cent of the job total, and it is still declining. The tragedy of this great shakeout of rural families has been that most of the refugees have headed for the cities. They have flocked into the fetid slums - uneducated, unskilled, and unable to escape from their new prison, the heartbreak of slum existence. They have traded rural poverty for urban degradation."

Mining

".....Mechanized mining now makes it possible for 100,000 miners to dig as much soft coal as 500,000 did only 20 years ago. Most of those who were squeezed out, many after 20 or 30 years in the mines, have found it difficult to adjust to above-the-ground jobs. They vegetate with their families in Appalachia, waiting for the mine whistle that will never blow."

Activity #	Date	Remarks
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2		
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ADD - A - LESSON

The lessons presented in this monograph represent only a few of the activities in which students may participate to expand their knowledge and understanding of the impact of technology in society. Teachers are invited to submit to the Area J Administrative Office information in regard to other successful lessons they have used with their classes. From time to time selected lessons will be printed and distributed to schools. The form on the next page may be utilized for this purpose.

IMPACT OF TECHNOLOGY IN SOCIETY ACTIVITY

Concept to be Developed: _____

_____

_____

Instructional Objective: _____

_____

_____

Title of Activity: _____

Materials: _____

_____

_____

Procedure: _____

_____

_____

_____

_____

_____

_____

_____

Extended Activity: _____

_____

Name of Teacher _____

School _____

GLOSSARY

Mass communication . . . . . the rapid transmittal of information to many people in many places.

Stereotype . . . . . a fixed notion which is held by a number of people about a person or a group of people irrespective of individuality or critical judgment.

Technology . . . . . the science of the industrial arts.

BIBLIOGRAPHY

Bailey, Thomas, The American Spirit, Heath and Co., Lexington, Mass., 1973.

Borden, Morton, The American Profile, Heath and Co., Lexington, Mass., 1970.

Burns, Richard W., and Gary D. Brooks, Curriculum Design in a Changing Society, Educational Technology Publications, Englewood Cliffs, New Jersey, 1970.

Byrd, Oliver, Elizabeth Neilson, and Virginia Moore, Health, Level 6, Laidlaw Brothers, Palo Alto, California, 1974.

------, Health, Laidlaw Brothers, Illinois, 1970.

Delury, George E. (ed.), The World Almanac and Book of Facts, 1977, Newspaper Enterprise Association, Inc., New York, 1976.

Fodor, John T., A Healthier You, Laidlaw Brothers, Palo Alto, Ca., 1974.

Golenpaul, Ann (ed.), Information Please Almanac, Atlas and Yearbook, 1976, Information Please Almanac, New York, 1975.

Grossman, Ruth, and John Michaelis, Working, Playing, Learning, Addison-Wesley, Menlo Park, California, 1976.

Jacobs, William, Search for Freedom, Benzinger, Beverly Hills, California, 1973.

Johns, Edward, Wilfred Sutton, and Barbara Cooler, Health for Effective Living, McGraw-Hill Publishers, New York, 1975.

Marvin, Mariah, Steven Marvin, and Frank Cappelluti, The Human Adventure, Addison-Wesley, Menlo Park, California, 1976.

Richmond, Pounds, Jenkins, Sussdorf, Health and Growth, Book 6, Scott-Foresman, Palo Alto, California, 1974.

Strong, Bryan, America; In Space and Time, Addison-Wesley, Menlo Park, California, 1976.

The Amazing World of Medicine, Popular Science Living Library Program, Harper and Brothers, New York, 1961.